GUIDELINES

for the Education of

Deaf and Hard

of Hearing Students

Massachusetts Department of Education

September 1989

PREFACE

PURPOSE OF THE GUIDELINES

The purpose of these guidelines is to address the issues that profoundly affect deaf and hard of hearing students' education. The guidelines are not intended to provide closure on the issue of the best communication environment or methodology for the development of language, learning and education of individual students. Ultimately, attempts to maximize student's learning potential will rely on cooperative efforts among deaf, hard of hearing and hearing individuals within the parameters of strong parent/school partnerships.

Therefore, the intent of this document is to assist local school districts in developing appropriate programs that promote maximum opportunity for learning for deaf and hard of hearing students. The guidelines offer:

- information on the identification and understanding of the unique educational, cultural, social and linguistic needs of deaf and hard of hearing students

- information to assist in the application of Section 504 of the Rehabilitation Act of 1973, P.L. 94-142 (the Education for All Handicapped Children Act) and Chapter 766 of the Massachusetts Acts of 1972 to deaf and hard of hearing students

- information and options to achieve quality programming that takes into consideration a variety of factors, including least restrictive environment

- information regarding effective parent/school collaboration in the education of deaf and hard of hearing students

- information regarding Deaf Community resources and interagency networking

EDUCATIONAL AND SOCIAL RAMIFICATIONS

In order to provide programs, services and personnel that can best educate deaf and hard of hearing students, it is necessary to be aware of the distinct educational and social ramifications that hearing loss poses. For example, deaf and hard of hearing students may:

- often have little opportunity for understandable communication, even with their families, when they are very young, severely limiting their chance to acquire any formal language skills

- have difficulty learning English; generally the greater the hearing loss, the greater the difficulty

- miss an enormous amount of world knowledge (i.e., social conventions) that they cannot "pick up" through "overhearing" at home, in school corridors, on the street, etc.

- be lonely and isolated, without enough peers for the normal peer information exchange and social learning opportunities all children need

and/or technical assistance, it is appropriate to refer to the Case Management/Social Services Department at the Massachusetts Commission for the Deaf and Hard of Hearing.

Referral characteristics of students suspected of having a hearing loss are summarized in Table 2.1, page 9. Not all characteristics may be exhibited by a student.

Assessment

The assessment of a deaf or hard of hearing student merits special attention. The impact of hearing loss on the development of the full range of language skills must be understood and reflected in the assessments. Etiology; functional hearing; age of onset; native and primary language; cultural and bilingual/multilingual background; other disabilities; communication skills; and cognitive, psychological and educational functioning all must be identified on an individual basis and assessed in relation to each other by a team of trained professionals knowledgeable about deafness.

Procedures Governing Evaluation TEAM Process   (317.0, 318.0)

Within five days after a student is referred, a parent receives written notification of the referral, the evaluation process and his/her rights in the evaluation process. Written permission of the parent must be secured by the school system before any assessments can begin. In addition, a parent (or a student who is at least fourteen) can request a meeting with the chairperson of the TEAM or designee to discuss reasons for referral. This pre-evaluation conference presents a forum for school personnel and the student/parent(s) to discuss the nature of the evaluation process as well as the family's rights, roles and responsibilities; composition of the evaluation TEAM; assessments to be conducted and by whom and time lines for testing.

Purposes of Assessments

All assessments must be completed within thirty school working days in order to:

- identify/update current level of performance and determine potential for learning
- identify degree of hearing loss
- assess modes of communication most appropriate for learning (inclusive of learning style)
- identify capabilities
- identify areas that require special services

Selection, Administration and Interpretation   (319.0)

The selection, administration and interpretation of assessments is a complex process requiring significant expertise. The assessments used in the development of the IEP should be selected according to the needs of each individual student and be administered by professionals with special knowledge about hearing loss. Assessment instruments must be free of cultural bias (e.g., music, sound-related items) and should not rely heavily on vocal or printed information unless the student's spoken or written language (e.g., English, Portuguese) is being tested.

In the assessment of a student who is deaf or severely hard of hearing, it can be beneficial to include a trained deaf or hard of hearing professional on the evaluation TEAM. Furthermore, the compatibility between the communication/language of the evaluation TEAM,

TABLE 2.1

Referral Characteristics of Students Suspected of having a Hearing Loss

When the following concerns are noted, further student observation is warranted by parents and professionals.

Academic

- scores significantly higher on performance tests than on verbal tests
- has success with tasks not dependent on understanding or use of spoken language (e.g., math computation)
- experiences delays, difficulties and differences in the acquisition of literacy skills and other subject areas
- has difficulty with abstract concepts that are presented through speech or print

Medical

- has or had middle ear problems including infection or fluid
- has family member(s) who experienced early hearing loss
- has mother whose pregnancy history includes infection from German measles, cytomegalovirus, toxoplasmosis
- had low birth weight: 4 lbs. or less (1800 grams)
- has unusual ear, eye, head or neck development
- had meningitis
- had severe jaundice
- is a mouth breather
- may lose balance/equilibrium

Behavior

- has difficulty following vocal directions
- often asks to have statements repeated
- responds inappropriately to questions
- attempts to hide difficulties in hearing or understanding spoken language
- may have only partial understanding of conversation
- appears to have a short attention span
- becomes easily distracted
- requires a lot of eye contact
- focuses close concentration on speaker's mouth
- appears to be in discomfort in noisy situations
- becomes easily frustrated in a group situation
- prefers to play alone
- tends to withdraw and become quiet
- is more attentive in small group activities

Speech

- omits or substitutes sounds
- may exhibit unusual vocal prosody characteristics (i.e., voice, tone, resonance, pitch, rhythm, intensity)

Auditory

- responds inconsistently to sounds
- may not be able to locate source of sound
- prefers loud volume on audio equipment
- responds more consistently to environmental noises than to voice
- turns head to one side to hear better
- has difficulty understanding speech after cold/ear infection subsides
- has difficulty discriminating words
- "cups ears" with hands

Language

- departs from grammatically correct spoken language (e.g., English, Portuguese)
- has difficulty expressing ideas in spoken language
- has difficulty understanding and expressing concepts in spoken language
- has limited vocabulary in a spoken language(s)
- has difficulty following vocal and written instructions
- has difficulty developing written language skills
- has difficulty developing reading comprehension skills
- relies primarily on visual strategies
- relies primarily on gestures

Modified from "Possible Referral Characteristics" in *Program Standards and Eligibility Criteria for Special Education*, Arkansas Department of Education, 1987, p.12-1 through 12-2.

the communication/language of the student/family and the assessment instruments is critical. This compatibility can only be accomplished if:

- the evaluation TEAM has comprehensive communication skills, an understanding of child-innovated communication systems and sensitivity to the effects of inadequate auditory access
- the communication of student/family is completely understood and appropriately integrated into the assessment situation
- the instrument(s) are free of cultural bias and the physical environment is modified appropriately

Recommended Skills of Evaluation TEAM (including but not limited to)

- training and experience in interacting with and evaluating deaf and hard of hearing children and youth
- knowledge of age-appropriate language, academic and social development
- awareness of Deaf culture
- ability to recognize child-innovated gestural systems
- fluency in American Sign Language (See Note)
- knowledge of techniques for facilitating the development of speech and spoken language including but not limited to speechreading, aural techniques, cued speech, etc.
- knowledge of English-based signed systems and sign variations that include features of both English and American Sign Language (See Note)
- knowledge of the impact of hearing loss on literacy skills and language development
- sensitivity to a family's culture, values, communication style and needs, and adaptability to deafness
- knowledge of assistive devices in an assessment setting
- ability to understand the range of particular speech patterns used by deaf and hard of hearing children and youth

> NOTE: For very young deaf and severely hard of hearing children their ability to effectively comprehend and use formal (e.g., ASL) or informal (e.g, conventional gestures) visual language should be determined. Accordingly, the full range of communication, language and learning styles should be evaluated.

Communication of the Student/Family

- the student's primary language or the communication mode familiar to the student and/or the family must be used in the assessment setting (Chapter 766 Regulation 203.0 requires that all communications with the family be in both English and the primary language of the home (e.g., ASL, Spanish, etc.) if the primary language is other than English.)

Assessment Instrument(s) Modifications

- alternative instructions (demonstration, ASL, gestures, cued speech, nonvocal test directions)
- modification of directions
- practice activities

- allowance for additional practice
- provision for additional time
- provision of additional examples
- use of a qualified interpreter

> **NOTE:** In any situation in which the evaluator does not have comprehensive sign language skills and the student's preferred mode is a signed language, a qualified interpreter* must be used. In this instance, the evaluator and the interpreter should discuss the interpreting situation prior to the assessment. It should be pointed out, however, that communication and language skills are but one variable to consider in an evaluator/evaluation TEAM and the list of skills of the evaluation TEAM cited should ultimately determine the composition of the evaluation TEAM.

Physical Modifications of Assessment Environment

- appropriate functioning hearing aid(s)
- assistive devices (e.g., audio loop, FM system)
- seating/lighting
- appropriate acoustical treatment (e.g., carpeting, acoustical ceiling tiles, drapes)
- reduction of visual distractions

Hazards of Evaluations Selected, Administered and Interpreted by Professionals Not Skilled in Deafness

- lack of awareness of student's skills (e.g., if speech pathologist cannot communicate fluently in the primary communication mode of the student, student's communication skills may not be adequately assessed)
- assumption that the lack of speech and/or standard English implies a language deficit or lack of intelligence as opposed to a difference in communication mode (e.g., student's primary language is ASL)
- problem of misdiagnosis (e.g., labeling a deaf or hard of hearing student as learning disabled or mentally retarded based on the score of a test that used "language alone" to determine the disability)
- lack of knowledge of available normed instruments (very few instruments are normed on the deaf population)
- lack of awareness of best assessment instruments and use of inappropriate tests
- potential for inappropriate conclusion regarding student's level of functioning because of limitations of standardized testing
- problem of identifying student whose intelligence score has not been accurately measured (e.g., psychologist who lacks effective communication skills can negatively affect resulting test scores)

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* A qualified interpreter is an interpreter holding Registry of Interpreters for the Deaf (RID) certification and/or screening approved by the MCDHH. Qualified interpreters can be located by calling the MCDHH Interpreter Referral Service.

Recommendations: Assessments and Professionals (311.0)

Chapter 766 Regulations cover specifics regarding the evaluation TEAM, parents and re-evaluation time lines.

Assessment Areas   (319.0)

Educational History
- history of the student's school programs

Academic
- current level of performance
- concept mastery
- mastery of factual information in age-appropriate subject areas
- mastery in the comprehension and production of written English (literacy skills)

Medical
- relevant medical history (including most recent physical exam)
- identification of additional handicapping conditions
- opthamological information

Audiological
- history relevant to cause of hearing loss
- pure-tone air/bone conduction
- speech reception threshold (hearing level for speech)
- speech discrimination in quiet and noise
- impedance battery (middle ear analysis and acoustic reflex)
- hearing aid evaluation (including comparative testing if necessary)
- test of auditory comprehension
- auditory/visual discrimination
- acoustic analysis of hearing aids/amplification and ear mold check
- FM auditory trainer evaluation if appropriate
- tolerance for loudness

Family History
- individual developmental history
- family constellation and developmental history including incidence of hearing loss in the family
- social services (if any) the family receives
- history of professional intervention
- communication with deaf or hard of hearing members within the family
- values and lifestyle
- attitude and values with respect to communication philosophy
- attitude and values with respect to Deaf culture
- social network within and outside the home (deaf, hard of hearing, hearing)
- goals and expectations for family members (deaf, hard of hearing, hearing)

Psychological*

- cognitive/intellectual
  - reasoning skills
  - long- and short- term memory
  - problem-solving strategies
  - ability to learn new tasks
  - capacity for acquiring content information
  - assessment of learning style

- psychosocial
  - identity and self-concept
  - personality and interaction style
  - current emotional functioning
  - mood and feelings
  - preferences and concerns
  - developmentally appropriate social behavior in different contexts
    (peer/adult, formal/informal, hearing/hard of hearing/deaf)
  - ability to use communication skills appropriate to different social contexts
    (e.g., classroom, playground, community, family)

Communication and Language Competencies

It is important that a deaf or hard of hearing student's performance in his/her primary language be formally assessed. The "primary" language of a deaf or hard of hearing student may not be the one that first comes to mind. For a deaf or hard of hearing student, the preferred primary language may not be English or another spoken language; instead, the preferred primary language may be ASL, one of the varieties of the Signed English Systems or an idiosyncratic sign form. All of these language forms should be included to ensure a complete evaluation.

NOTE: The information presented below is also contained in chart form in Appendix B. The skills listed should be evaluated based on chronological/developmental age and cognitive ability.

Receptive and Expressive Linguistic Skills (See Appendix B for information in chart form)

- ability to understand/produce appropriate grammatical structures in language

  - word order
  - sentence types (declarative, interrogative, etc.)
  - complex sentence types (embedded clauses, conjoined sentences, etc.)
  - basic pronomial system (personal pronouns, classifiers, appropriate pronoun choices)

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* Adapted from T. A. Clark, "Psychological and Educational Evaluations of Hearing Impaired Students," *Shhh* (July/August 1985), 12-13.

- ability to understand/produce basic meaning and extensions of meaning

    - modification of lexical (words and signs) and sentence structures in the production of variations in meaning (e.g., verb tenses, verb aspect)
    - derivation of different forms from lexical categories (e.g., derivation of adjectives from verbs, nouns from verbs, etc.)

- ability to understand/produce figurative and creative language

    - idiomatic expressions in language
    - variations in meaning of different language structures across social settings (generational or peer group meanings vs. adult meanings and jargon and slang)

- ability to understand/produce age-appropriate language according to developmental milestones

- ability to understand/produce appropriate discourse and conversation rules (turn taking, introducing and maintaining topic, characters, theme, setting, etc.)

- ability to understand/produce intelligible and fluent language (articulation, preciseness of delivery, level of fluency, etc.)

English/Other Language/Speechreading (See Appendix B for information in chart form)

- ability to understand individual words or segments of words in spoken English/other language
- ability to understand larger chunks of spoken English/other language (e.g., phrases, sentences)
- ability to understand figuratively and creatively spoken English/other language
- ability to reorder initial perceptions of a spoken English/other language message as meaning becomes further clarified

Motor Skills

- gross and fine motor
- psychomotor
- motor/sport skills

Independent Living Skills/Self-Help Evaluation

> NOTE: The skills listed below should be evaluated based on chronological/developmental age and cognitive ability.

- home and self-care
- numerical skills
- time concepts
- money skills
- sight vocabulary (ability to perform basic communication: filling out forms, interpreting common signs, etc.)

- mobility and transportation
- knowledge of community (including elementary civics and legal concepts)
- measuring skills
- banking and insurance
- budgeting/financial management

Vocational

> **NOTE:** The skills listed below should be evaluated based on chronological/developmental age and cognitive ability.

- vocational/career aptitudes
- vocational/career interests
- work-related behaviors
- academic skills related to work performance

Individualized Educational Plan (IEP) Development (322.0)

According to Chapter 766 "[a]fter completion of the assessments which were part of the evaluation, and based on the results of those assessments, the TEAM shall meet to write the portion of the child's IEP for which it is responsible."

Parents are critical to the development of the IEP and need to be aware of their rights and involvement in the process. For instance, the TEAM meeting must be in the parent's primary language or mode of communication (e.g., ASL, Portuguese, etc.). IEPs need to be clear and easily understandable to the child's family. No later than eight school working days after the TEAM meeting, parents should receive a written IEP. Parents have the right to reject (in full or in part) an IEP and may pursue mediation or appeals to resolve their differences (400.0).

IEPs in the Commonwealth of Massachusetts all must include standardized information. For instance, an IEP would include goals for movement toward a less restrictive prototype and the conditions for that movement (e.g., interpreter support in a regular classroom setting). The items listed below highlight important considerations in designing an IEP for a deaf or hard of hearing student.

Student Profile (including but not limited to)

- identifies the student's primary language form (e.g., ASL, English, Portuguese, etc.)
- outlines the student's strengths (e.g., cognition, achievement, social/ emotional, psychomotor)
- outlines the student's area(s) of special need (e.g., medical, cognition, achievement, social/emotional, psychomotor)
- identifies measurable physical constraints (e.g., extent of hearing loss, motor limitations)
- identifies learning style
- identifies participation in regular education program
- identifies parent/student instruction (where appropriate)

Special Educational Service Delivery

Possible supportive services (including but not limited to)
- designated liaison to oversee and coordinate student's program and provide technical consultation to relevant service providers
- transportation plan
- designated personnel to oversee and monitor the function and maintenance of hearing aids and assistive devices
- support to appropriate school personnel
- speech therapy
- English language instruction
- auditory training
- occupational therapy, physical therapy
- counseling (group, individual)
- vocational/academic counseling
- interpreter services (oral/English, signed languages/ASL, etc.) for instruction
- signed language instruction (ASL)
- notetaking
- tutoring
- instruction for students in the proper use of interpreters
- instruction for students in the use of assistive devices, telephone amplifiers and Telecommunication Devices for the Deaf (TDDs)
- computer instruction
- physical education/adaptive physical education
- parent/student instruction
- parent counseling
- interpreter(s) for parents and deaf or hard of hearing students for TEAM meetings, conferences, home/school communication

Teaching Approach and Methodology and Teaching Modifications

Teaching Approach and Methodology
- use of communication mode(s)
- use of visual, auditory or visual/auditory approaches
- use of language enrichment models
- use of individual, small group or large group instruction
- use of developmental/interactive approaches
- use of fluent, signing teachers (total communication programs)
- qualified interpreters

Teaching Modifications (including but not limited to)
- homework assignments written on the blackboard, overhead projector or mimeograph sheet
- student notebook for home/school communication (e.g., assignments, vocabulary)
- preferential seating based on needs of student relative to classroom activity
- provisions for interpreting, notetaking, tutoring

Monitoring and Evaluation Techniques (including but not limited to)

- appropriate academic tests
- recognition and avoidance of cultural bias
- specific type of test geared to individual needs of the student
- list of evaluations for the future

Any Specialized Equipment or Materials (507.0)

- specialized materials (e.g., texts) for deaf students (or adapted materials for teaching English as a Second Language)
- acoustically and optically controlled environment (e.g., classroom, resource room, speech therapy room, computer lab)
- captioned films and videotapes
- interpreted school announcements and/or printed information
- overhead projectors, tape recorders, phonographs
- carpeting in regular education classroom
- visual alarm systems
- TDDs and telephone amplifiers
- TDDs in administrative offices
- television and videocamera (for assessment and instruction)
- television with telecaption adapter or decoder
- VCRs with decoder equipment
- educational amplification systems (e.g., audio loops, FM system)

PROGRAMMING FOR DEAF AND HARD OF HEARING STUDENTS

The unique communication and language needs of deaf and hard of hearing students pose a special challenge for programming and determining the least restrictive environment (LRE). For deaf and hard of hearing students, access to the most information, opportunities for the most incidental learning and opportunities for learning through peer interaction are important considerations. In all cases, the needs of the student should determine the characteristics of the program and the placement to ensure that the goal of providing the most appropriate education is reached. For some students, a regular education setting with the necessary support services will provide the most appropriate program; for others, a school for the deaf may be best.

This chapter is organized into four sections. The first section, *Placement Considerations*, examines such issues as incidental learning and communication philosophy. *Effective Mainstreaming:Student and School Readiness* explores the competencies needed by a deaf and hard of hearing student in a regular education setting as well as the readiness of the public school to serve the student. *School Program Options* details the three physical settings available to deaf and hard of hearing students: the local public school, a collaborative for deaf and hard of hearing students and a school for the deaf. Finally, *Program Evaluation* is briefly discussed as it pertains to the responsibilities of school districts administering special education programs.

PLACEMENT CONSIDERATIONS

General Considerations

An education setting should serve to maximize potential and not isolate a deaf or hard of hearing student. In making placement decisions, consideration should be given to whether:

- mutually shared, age-appropriate communication and language exists among peers in a variety of learning situations
- the deaf or hard of hearing student has sufficient potential for interaction to fully participate in the educational and social programming of the school
- personnel have fluent communication skills and information necessary to facilitate the presentation of instructional material and to dialogue with the student
- teachers understand the social and educational ramifications of being deaf or hard of hearing so that a deaf or hard of hearing student is not mistakenly perceived as being cognitively delayed or language disordered (e.g., teachers are aware of the learning style of deaf and hard of hearing students)
- students understand the knowledge presented and are not overwhelmed or pretend to understand the information presented
- qualified substitute teachers for deaf and hard of hearing students are available (small programs often have a difficult time locating substitute teachers)

Least Restrictive Environment

Federal and state law requires that, to the maximum extent appropriate, students with special needs must be educated with their non-handicapped peers. In selecting the least restrictive placement, consideration should be given to any potential harmful effect on the student or on the quality of the services that the student needs. For some students, LRE will be a public school setting; for others, it may be a collaborative program for deaf and hard of hearing students or a school for the deaf.

Incidental Learning

A great deal of information is available that is not strictly related to classroom teaching and the curriculum. Much information is learned from peers, from interactions with instructional personnel and from adults in and out of the classroom.

Peer Interaction and Social Development Opportunities

An environment that offers meaningful peer interaction and social opportunities is particularly significant for the development of citizenship, leadership and interpersonal skills. For deaf and hard of hearing students, a significant effort must be put forth to ensure that the environment maximizes development in these areas. In order to provide students with diverse and meaningful social interactions, the following should be considered:

- an educational environment in which the student has full communication access to classroom and school discussions and activities
- a recognition of the importance of opportunities to enhance self-esteem and experience a sense of personal achievement
- interaction opportunities between teacher and students and among students reflective of mutual respect and acceptance of individual differences

Extracurricular activities (e.g., clubs, sports) are important to a student's social/emotional and cognitive development. Moreover, the law requires schools to provide extracurricular activities in a way that gives students with special needs an equal opportunity to participate in those activities. School districts should actively encourage and support participation of deaf and hard of hearing students in this area. Among other things, interpreters and/or transportation may be required to guarantee deaf and hard of hearing students the opportunity to participate equally with their hearing peers.

Communication Philosophy

Currently, two distinct philosophies underlie the education of deaf and hard of hearing students. The two primary philosophies, oral-aural and total communication, are the two options, and, while their goals are the same, their strategies are different. In considering a program and its communication philosophy, attention should be focused on the student's individual capabilities.

The oral-aural method is based on the philosophy that the way to learn spoken English and reading skills is to immerse the student in spoken language. Maximizing residual hearing is emphasized, and support services may include oral interpreters, notetakers and assistive devices. Focus is on the use of and development of spoken language through amplification of sound and speechreading. Writing and reading are used; sign language and

fingerspelling are not. Some programs might use cued speech. (Often the opto-acoutical environment is critical to the student's ability to utilize his/her residual hearing.)

The total communication philosophy utilizes multidimensional strategies that may or may not include a combination of a signed language and a spoken language. The child is exposed to all forms of language, visual and auditory. Input is not limited to one form of a language, and support services may include signed language interpreters and a peer group that communicates in sign language. Focus is on a combination of, but not necessarily simultaneous use of, language modes, including child innovated gestural systems, sign language, fingerspelling, body movements, facial expressions, spoken language, amplification of sound, and speechreading. Writing and reading are used. Communication is based on a student's preference. Some programs extend the philosophy to include the option of ASL and English in a bilingual/bicultural setting.

Language and Communication Opportunities

Education happens through communicative interaction. Therefore, an environment where understandable conversational exchange takes place provides opportunity for natural language learning and acquisition of literacy. The means for creating such an environment must be consistent with the communication philosophy and may include one or more of the following:

- assistive devices (e.g., audio loop, FM system)
- auditory training
- speech and language therapy
- fluent models of English, ASL and any other languages recognized by the school and community
- qualified interpreters (oral/English, signed languages/ASL, etc.)
- specialized materials (e.g., texts, computer programs)

Curriculum

Deaf and hard of hearing students need a rich and diverse curriculum commensurate with the curriculum offered to their hearing peers. Because lack of auditory input may impede experiential learning, special curriculum and instructional strategies for deaf and hard of hearing students may choose to focus on the following:

- learning that integrates the classroom with the real world (e.g., learning by doing)
- acquisition of language and literacy skills
- provision of general information about the world in which we live
- social skill development
- specialized pre-vocational, vocational and career education as appropriate
- ASL
- Deaf culture/history/literature
- special content areas:
    - Deaf resources and organizations
    - technology
    - maintenance of hearing aids and assistive devices
    - how to access and use an interpreter/TDD/Relay Service
    - medical aspects of deafness

    _   independent living skills including coping socially as a deaf or hard of hearing
        person in the hearing world

Access to spoken language is an extremely difficult, labor intensive process for deaf and hard of hearing students. For these students, access to visual information (e.g., signed language, speechreading) generally facilities their optimal language development. It is also essential for most hard of hearing students to have access to both auditory and visual information in a variety of forms to maximize their development in this area. Although access to visual information is clearly essential for most deaf students, it also facilitates optimum language acquisition for many hard of hearing students.

Some experts theorize that, in general, deaf and hard of hearing individuals develop English, but at a slower rate than hearing people. Other scholars have found that deaf and severely hard of hearing children exposed to a signed language at an early age reach developmental milestones for language in the same sequence and at the same rate that hearing children acquire a spoken language.* With deaf and hard of hearing students who are acquiring a signed language, some educators have elected to approach the teaching of English through second language instructional techniques (e.g., English as a Second Language, ESL). In fact, given the reduced access to English that is common across the population, materials designed for ESL purposes may be useful in any program for deaf or hard of hearing students. For example, utilizing ESL techniques, the teaching of reading would draw on the student's primary language or communication style.

Personnel and Inservice Training

The provision of a quality education is directly related to the expertise of school personnel and the specialists advising them. In addition, the inclusion of deaf and hard of hearing persons in professional roles will not only serve to enhance identity development in a deaf or hard of hearing student, but will enable school personnel and students to learn about deaf individuals. To ensure successful integration of students in the regular classroom setting, qualified interpreters (oral/English, signed languages/ASL, etc.) may be required.

Inservice training for all personnel (especially for those professionals in regular education settings) should underscore the necessity of understanding the educational and social ramifications of deafness. (See Chapters Four and Five for more information pertaining to personnel and inservice training.)

EFFECTIVE MAINSTREAMING: STUDENT AND SCHOOL READINESS

Student Readiness

Effective mainstreaming practices may require that a regular education environment be modified to accommodate individual differences. In order to access a modified education environment, a student should display certain competencies in the areas of psychosocial development and communication, language, and academic skills. For example, some competencies for an older student may include but not be limited to:

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* For more information see R. Hoffmeister and R. Wilbur, "Acquisition of Signed Languages in Deaf Children" in *Perspectives in American Sign Language*, ed. H. Lane and F. Grossean (Hillsdale, 1980).

Psychosocial Skills

- demonstrates an ability to interact with peers in a supportive regular education setting
- indicates an awareness of similarities and differences among deaf, hard of hearing and hearing people
- is responsive to the idea of participating in a regular education program
- understands and is willing to utilize the supports identified in the IEP

Communication and Language Skills

- identifies self within a communicative context among deaf, hard of hearing and hearing people
- is capable of establishing communication with teachers and peers
- understands how to use an interpreter, is willing to consider using one or can use one (as identified in the IEP)
- demonstrates signed language competency for discussing specific subject matter (total communication program)

Academic Skills

- demonstrates ability to work in large group settings
- demonstrates responsibility in completion of assignments
- is aware of and can use available resources (e.g., support staff) when necessary to reinforce or clarify material covered in class
- works cooperatively with peers on student-directed projects
- demonstrates sufficient academic skill to accomplish course work with support
- is capable of demonstrating appropriate study habits for independent work

School Readiness

Along with the student's readiness for mainstreaming, an existing support system within the school can be of enormous benefit. Such a system might include:

- a liaison (e.g., teacher, counselor) in the school
- inservice training for school personnel and hearing peers (See Chapter Five)
- technical assistance from experts in deafness
- schedule of meetings with school personnel and the student to evaluate the student's progress
- a system for dealing with academic and social issues that might arise

SCHOOL PROGRAM OPTIONS

Public School - Local School District

Local school districts offer a regular education program to educate students with special needs with children without special needs. A deaf or hard of hearing student is main-streamed into a regular education class. In addition, some local school districts have substantially separate classes. The following features apply.

Services, Resources and Technology

- speech, language and hearing therapy
- notetaking
- interpreting (oral/English, signed languages/ASL, etc.)
- tutoring
- assistive devices (e.g., audio loop, FM system)
- appropriate classroom and building features (e.g., carpeting, acoustical ceiling tiles, proper lighting, seating)
- counseling (personal, guidance)
- specialized equipment (e.g., TDD, TV decoder)
- evaluation facilities
- extracurricular

Personnel

- teacher of deaf and hard of hearing students
- regular education classroom teacher
- speech and language pathologist
- resource teacher
- interpreter
- adjustment counselor
- liaison (e.g., teacher, counselor)
- consultant (e.g., Deaf specialist, Counselor for Deaf and Hard of Hearing Children)
- program coordinator with specialized training
- supervising teacher with specialized training

Public School - Collaborative

Collaboratives are a general administrative structure that grew out of the school districts' need to provide services on a cooperative basis. The majority are involved in the provision of special education services. The rationale for their existence includes cost effective, comprehensive educational services that most individual communities are not equipped to provide alone. A collaborative program for deaf and hard of hearing students may range from consultation in individual towns to itinerant services in public schools to comprehensive day programs housed in public schools.

Services, Resources and Technology

- refer to public school list for other information (See pages 23 and 24)
- parent program
- technical assistance to augment mainstream placements
- specialized and comprehensive computer offerings
- specialized library and media services
- multihandicapped program
- vocational program
- deaf and hard of hearing peers
- Deaf adult role models
- summer program

Personnel

- teacher of deaf and hard of hearing students
- speech and language pathologist with knowledge of deafness and/or signed language
- counselor for the deaf
- reading specialist specializing in deafness
- social worker
- program coordinator with specialized training
- supervising teacher with specialized training
- consultants, including audiologists and psychologists

Schools for the Deaf

Schools for the deaf offer deaf and hard of hearing students a fully accessible environment (staff, peers, activities) in a specialized setting. Some students may be offered a regular education component outside of and in proximity to the school for the deaf setting. The following services can be found in many schools for the deaf in Massachusetts.

Services, Resources and Technology

- refer to public school list for other information (See pages 23 and 24)
- dormitory option
- parent/infant program
- technical assistance to augment mainstream placements
- specialized and comprehensive computer offerings
- specialized library and media services
- multihandicapped program
- parent education
- signed language instruction for staff and parents
- deaf and hard of hearing peers
- Deaf adult role models
- psychological services
- special curricula
- hearing aid monitoring and maintenance
- vocational program
- summer program

Personnel

- teacher of deaf and hard of hearing students
- speech and language pathologist
- counselor for the deaf
- reading specialist
- social worker
- program coordinator
- supervising teacher
- audiologists
- psychologists
- guidance counselors
- parent educator

- Deaf culture specialist
- interpreters
- signed language instructors

PROGRAM EVALUATION

All special education programs should be evaluated in an ongoing manner to ensure that program goals are being met in an effective and timely manner. The evaluation is a valuable tool for school personnel to use to identify strengths and weaknesses of their delivery system and to alter, when appropriate, organizational structures/processes and instructional methods.

Program evaluation may also be useful for communicating with the public about a school's program and its needs and for providing administrators with data and information to use in future policy and program development.

Program evaluations may be conducted in-house or through the hiring of an outside consultant(s). Depending upon the program's resources and scope, the evaluation may be comprehensively designed to examine all program facets or may focus on one or two particular components (e.g., opportunities for peer interaction, communication environment, parent participation). Essential Components of Program Evaluation include:

- determination of evaluation purposes and requirements
- development of evaluation plan
- determination of evaluation design
- selection or development of assessment methodologies and instruments
- collection of data
- analysis of evaluation data
- publication of evaluation results
- application of evaluation findings

There are various methods for program evaluation; each method should be selected to meet the needs and purposes of the particular program. It is often helpful to identify a small group (including parents and deaf and hard of hearing individuals) to work with the evaluator(s) throughout the evaluation process.

PERSONNEL WORKING WITH DEAF AND HARD OF HEARING STUDENTS

The quality of education for deaf and hard of hearing students depends upon the specialized skills and training of a variety of personnel. Ideally, all personnel who work with deaf and hard of hearing students should understand the complex consequences of deafness. An environment that provides comprehensive communication is of tremendous benefit linguistically, academically and socially.

This chapter addresses and describes the desired requisite knowledge and responsibilities for primary and ancillary/support/consulting personnel whose roles specifically address deafness. Specific skills relative to such factors as individual characteristics, age and stage of development of the student and school setting (e.g., regular education classroom, school for the deaf) have not been included with the understanding that principals and directors are in a position to determine necessary requisites prior to appointment. In addition, personnel such as regular classroom teachers and administrators who interact with deaf and hard of hearing students are discussed in the chapter on inservice training. (See Chapter Five: Inservice Training for School Personnel and Students.) Furthermore, while this chapter clarifies knowledge and responsibility of a variety of personnel, it does not make suggestions relative to personnel hiring or personnel working within more than one role.

At present, primary and other personnel are working in a variety of capacities related to deaf and hard of hearing students. The unique nature of each role requires a specific set of professional competencies. In determining the requisite skills for a given position, an effort should be made to match job responsibilities with those competencies that are directly related to one's capacity to perform the job effectively.

In this chapter, *Demonstrated Competencies: Knowledge, Communication Skills and Professional Responsibilities of School Personnel* that would provide an optimal foundation for working with deaf and hard of hearing students are listed and described initially. Following this section, various *Primary Personnel* and then *Ancillary/Support/Consulting Personnel* are detailed by highlighting the demonstrated knowledge and responsibilities that are attached to each specific role.

It should be noted that the list of demonstrated competencies is a comprehensive presentation of all the competencies necessary to create a well-balanced faculty. However, in and of itself, it cannot be perceived as required for a single position. For example, an audiologist may not need the sophisticated communication skills that would be critical for instructional staff. It should also be acknowledged that personnel may need to upgrade their skills in the areas of assessment, IEP development and curriculum and improve their knowledge of instructional strategies. Personnel may need to develop their communication skills to better work with deaf and hard of hearing students.

> NOTE: Fluent ASL of personnel who teach signing deaf students is as critical as fluent, quality spoken English for personnel who teach oral deaf students.

DEMONSTRATED COMPETENCIES: KNOWLEDGE, COMMUNICATION SKILLS AND PROFESSIONAL RESPONSIBILITIES OF SCHOOL PERSONNEL

I. Knowledge of:

A. principles of child growth and development with emphasis on age appropriate expectations
B. the impact of hearing loss on sociocultural, linguistic and educational development
C. Deaf culture, history and literature
D. ways in which amplification and technological advances are useful to deaf and hard of hearing students
E. adaptations of physical environment(s) to meet auditory/visual needs
F. resources (local, state, national) for deaf and hard of hearing students and their families
G. ability to modify communicative style based on individual student needs
H. language development
I. speech production
J. language use (pragmatics, functional and social application of language)
K. morphological, semantic, syntactic and phonological structure
L. ability to utilize a variety of techniques to check student's comprehension
M. ability to understand/adapt to particular speech patterns used by deaf and hard of hearing students
N. ability to utilize/interpret situational cues, body language and posture
O. ability to recognize child-innovated gestural systems

II. Additional Communication Skills for Aural/Oral Programs

A. techniques for facilitating the development of speech and spoken language including but not limited to speechreading, aural techniques and cued speech
B. aural (re)habilitation

III. Additional Communication Skills for Total Communication Programs

A. ability to implement techniques for facilitating the development of speech and spoken language including but not limited to speechreading and aural techniques
B. fluency in ASL
C. understanding of signing varieties that include features of both English and ASL

IV. Professional Responsibilities

A. function as a TEAM member in the development of the IEP
B. assess the student's skill(s) in given area of expertise as appropriate
C. develop individualized objectives (based on assessment) to be incorporated into the IEP
D. implement objectives as outlined in the IEP
E. provide consultation and support to parents and school personnel as appropriate
F. utilize resources essential for implementation of the educational program for students from multilingual/multicultural families
G. provide for one's own professional growth

PRIMARY PERSONNEL

Program Director

Competencies I. A-O; II. A-B or III. A-C; IV. A-G; page 28.

- is responsible for coordination with Administrator of Special Education
- develops framework for and maintains program organization and operation
- monitors program components
- establishes strong and effective communication with school districts, human service agencies and the Deaf Community
- oversees personnel hiring, supervision and development
- communicates effectively with school personnel, parents and students

Supervising Teacher

Competencies I. A-O; II. A-B or III. A-C; IV. A-G; page 28.

- assists program director in day-to-day program management
- coordinates the staff in the implementation of the IEP
- provides direct supervision to teachers, speech and language pathologists, counselors, etc.
- oversees curricula, materials and day to day instruction of students
- provides ongoing assistance/demonstration to classroom teachers
- communicates effectively with school personnel, parents and students

Teacher of Deaf and Hard of Hearing Students

Competencies I. A-O; II. A-B or III. A-C; IV. A-G; page 28.

- communicates with deaf and hard of hearing students in their primary language or preferred communication mode
- assesses academic, language and social skills of deaf and hard of hearing students
- is knowledgeable of curricula and teaching strategies appropriate to the specific needs of deaf and hard of hearing students
- develops comprehensive strategies to implement curricula
- understands audiological assessment and its application in designing and implementing programming
- works in cooperation with the speech and language pathologist in planning and implementing communication/language development
- works in cooperation with the counselor to be aware of individual needs
- provides consultation and/or technical assistance to regular education teacher
- assists school personnel in enhancing a student's overall communication skills including knowledge of the use of interpreters, communication through print and other methods of communication the student may use
- is knowledgeable of bilingual/bicultural approaches to the education of deaf and hard of hearing students

> **NOTE:** If a deaf or hard of hearing student is in a regular education setting that has no program for deaf and hard of hearing students (i.e., student is the only individual who is deaf or hard of hearing), an itinerant teacher of deaf and hard of hearing students or an appropriate consultant should be responsible for designing, overseeing and offering technical assistance to both the student and the regular education teacher.

Speech and Language Pathologist (Teacher of Children with Speech, Language, and Hearing Disorders)

Competencies I. A-O; II. A-B or III. A-C; IV. A-G; page 28.

- assesses spoken language skills including prerequisites for spoken language development
- communicates with deaf and hard of hearing students in their primary language or preferred communication mode
- assesses speech skills including prerequisites for speech and language development, speech skills and aural rehabilitation, including speechreading and auditory discrimination skills
- assists school personnel in enhancing a student's overall communication skills including awareness of the use of interpreters, communication through print and other methods of communication the student may use
- works in cooperation with the teacher of deaf and hard of hearing students in planning and implementing strategies which foster communication/language development and related academic skills (reading, writing)
- is knowledgeable in the use of technological devices to support speech/language development
- provides consultation to school personnel and parents on issues of communication/language development and use of amplification systems

> **NOTE:** A teacher of deaf and hard of hearing students, the speech and language pathologist or a guidance counselor is most likely to be assigned liaison responsibilities, which include coordinating mainstream activities; monitoring deaf and hard of hearing students in the regular classroom; monitoring the implementation of the IEP; completing required reports; and maintaining communication with parents.

Counselor

Competencies I. A-B, D; IV. A-G; other competencies determined by administrator/school, page 28.

- assesses psychosocial development as appropriate
- counsels deaf and hard of hearing students (individual, group) with an emphasis on issues related to identity and self-esteem within a preventative mental health framework
- counsels families as appropriate
- serves as a liaison between parents and other professionals
- works with families and staff in obtaining needed services, resources and supports for parents and students
- develops resources for career/vocational opportunities and post-secondary programs for deaf and hard of hearing students

- possesses training/background in multicultural counseling
- works in cooperation with teacher to oversee needs of students
- is fluent in ASL (for total communication programs)

Social Worker

Competencies I. A-B, D; IV. A-G; other competencies determined by administrator/school, page 28.

- provides counseling/therapeutic services to families and students as needed
- conducts home assessment/family history
- possesses skills and understandings of family systems
- possesses skills and understandings of multilingual/multicultural dynamics
- provides clinical consultation to relevant personnel as deemed appropriate
- works with families and staff in obtaining needed services, resources and supports for parents and students
- serves as a liaison between parents and other professionals
- coordinates and develops community resources in the school and community for students, families and school personnel
- is fluent in ASL (for total communication programs)

> NOTE: Depending on the size and needs of the program, social workers may also perform the responsibilities of parent educators and/or counselors.

Educational Interpreter

Competencies I. A-H; other competencies determined by administrator/school, page 28.

- is able to use language and communication modes flexibly in order to match the individual student's needs
- provides interpreting/transliterating services in all educational settings (e.g., classrooms, counseling sessions, etc., and using the mode of communication determined at the TEAM meeting)
- confers with teacher, tutor and student as appropriate to ensure appropriate interpretation of new concepts or specialized English vocabulary into signed language
- becomes familiar with the student's language in order to ensure appropriate interpretation/transliteration
- explains interpreter role to students and school personnel
- adapts immediate physical setting to ensure effective communication

> NOTE: See the Massachusetts Commission for the Deaf and Hard of Hearing manual, *An Information Guide Related to Standards for Educational Interpreting for Deaf and Severely Hard of Hearing Students in Elementary and Secondary Schools*, for a more comprehensive description of the educational interpreter role as well as qualifications and other critical issues in educational interpreting.

Parent Educator

Competencies I. A-H; other competencies determined by administrator/school, page 28.

- develops and implements a parent program that provides information, counseling, -opportunities for peer support, opportunities for interactions with deaf and hard of hearing individuals, sign language classes and community resources
- is fluent in ASL (for total communication programs)

Teacher Assistant

Competencies I. A-H; other competencies determined by administrator/school, page 28.

- assists classroom teacher in carrying out daily classroom activities
- provides instruction under supervision of classroom teacher
- is fluent in ASL (for total communication programs)

Resource Room Teacher

Competencies I. A-H; other competencies determined by administrator/school, page 28.

- may instruct students in a regular education setting (either in a tutoring situation or in a substantially separate classroom)
- provides teaching support to regular education teachers
- is fluent in ASL (for total communication programs)

ANCILLARY/SUPPORT/CONSULTING PERSONNEL

Psychologist

Competencies I. A-B; IV. A-C; other competencies determined by administrator/school, page 28.

- selects, administers and interprets verbal and nonverbal assessments
- assesses deaf and hard of hearing students in the areas of cognitive/intellectual, psychosocial and independent living skills
- provides group, individual and family therapy as needed
- possesses training/background in deafness and multicultural counseling
- supervises/consults with school counselors
- is fluent in ASL (for total communication programs) and/or uses interpreter according to student's communication mode

Audiologist

Competencies I. B, D, E, F; IV. A-C; other competencies determined by administrator/school, page 28.

- conducts audiological evaluations
- evaluates and monitors or assigns the monitoring of hearing aids and educational amplification systems

- coordinates aural (re)habilitation
- oversees hearing conservation programs
- advises parents on such issues as understanding the function and maintenance of hearing aids, the use of assistive devices and environmental modifications
- uses interpreter according to student's preferred communication needs

Adaptive Physical Education Teacher

Competencies I. A; IV. D-G; other competencies determined by administrator/school, page 28.

- assesses deaf and hard of hearing student's psychomotor development, physical fitness, motor/sport skills, etc.
- provides individual and/or group instruction as outlined in the IEP
- adapts and implements curricula as appropriate
- is fluent in ASL (for total communication programs) and/or uses interpreter according to student's communication mode

Occupational Therapist

Competencies I. A; IV. A-G; other competencies determined by administrator/ school, page 28.

- assesses deaf and hard of hearing student's motor skills
- provides individual and/or group instruction as outlined in the IEP
- is fluent in ASL (for total communication programs) and/or uses interpreter according to student's communication mode

Physical Therapist

Competencies I. A; IV. A-G; other competencies determined by administrator/ school, page 28.

- assesses deaf and hard of hearing student's motor skills
- provides therapy as outlined in the IEP
- is fluent in ASL (for total communication programs) and/or uses interpreter according to student's communication mode

Nurse

Competencies I. A-B; IV. A-C; other competencies determined by administrator/ school, page 28.

- represents physician on TEAM
- reviews health assessment and contributes relevant school health information
- oversees/coordinates hearing and vision screening programs
- communicates with parents on medically related issues
- monitors annual health examinations
- is fluent in ASL (for total communication programs) and/or uses interpreter according to student's communication mode

Vocational and Career Counselor

Competencies I. A-O; IV. A-G; other competencies determined by administrator/school, page 28.

- has knowledge of appropriate assessments for deaf and hard of hearing students
- administers and interprets vocational assessments including interest inventories
- has knowledge of career and vocational opportunities
- counsels deaf and hard of hearing students on career and vocational opportunities
- develops and adapts curricula (including reality-based curricula) to integrate vocational skills
- acts as liaison between the business community and the school
- is fluent in ASL (for total communication programs) and/or uses interpreter according to student's communication mode

> NOTE: These services should be determined according to a student's chronological/developmental age. In some programs, the above-mentioned responsibilities may be assumed by other personnel or assigned to a consultant (e.g., rehabilitation counselor).

Educational Tutors

Competency I. A; other competencies determined by administrator/school, page 28.

- possesses knowledge in the specific subject area at student's grade level
- has knowledge and experience in tutoring children and youth
- uses interpreter according to student's preferred communication needs

Curriculum Coordinator (for large programs)

Competencies I. A-O; II. A-B or III. A-C; IV. A-G; other competencies determined by administrator/school, page 28.

- researches and designs age-appropriate curricula
- develops strategies for applying research to existing curricula
- monitors and oversees curricula design throughout program
- assists personnel in implementing curricula

INSERVICE TRAINING FOR SCHOOL PERSONNEL AND STUDENTS

In order to provide students who are deaf and hard of hearing with appropriate services, persons who are involved with their education and school environment should be given the opportunity to develop appropriate knowledge and skills. Inservice training is, therefore, an important staff development activity that can broaden the perspectives of professional staff while presenting innovative instructional practices for classroom application. Identifying educationally pertinent issues that arise when interacting with deaf and hard of hearing students can promote positive attitudes that result in a rich school environment. Additionally, presenting practical applications of current research findings can further enhance the quality of these students' education.

This chapter outlines *Inservice Training for School Personnel*, training activities necessary for the cognitive and social development of deaf and hard of hearing students. *Student Orientation: Educating Peers About Deafness* offers hearing peers knowledge that will enhance relationships with deaf and hard of hearing classmates. Finally, *Technical Assistance* concerns itself with the development of inservice training, the provision of recent information about deafness issues and the guidance for understanding the information presented in this document.

INSERVICE TRAINING FOR SCHOOL PERSONNEL

Effective inservice training should be offered to any person who interacts with a deaf or hard of hearing student. Such personnel may include regular education teachers, administrators and support personnel (e.g., secretaries, bus drivers, lunch monitors). Moreover, teachers of deaf and hard of hearing students in all school settings should have ongoing opportunities to become knowledgeable about promising practices and relevant research in deafness. For instance, awareness of advancing technology and new ideas and approaches to curriculum and instruction are important topics for teachers. In addition, for teachers in total communication programs, classes to improve signing skills may be appropriate.

In developing any training for personnel working with deaf and hard of hearing students, it is critical to involve deaf and hard of hearing personnel who can communicate the experience of being a deaf/hard of hearing person in a hearing world. A deaf trainer, in addition to sharing aspects of Deaf culture, is also able to portray a positive image of a deaf professional to hearing personnel working in the school.

Although inservice training is an important component of all programs for deaf and hard of hearing students, it is of particular importance when a student is in a regular education setting. Although effective integration cannot entirely depend on inservice training, such training can enhance the receptivity of regular education. Again, it should be noted that deaf and hard of hearing individuals are important in the planning, implementation and evaluation of inservice programs for all regular education personnel.

Inservice training is needed in public schools for school personnel who work with students in substantially separate classrooms as well as for personnel who work with students who

are mainstreamed. Administrators, teachers and other staff may need assistance in developing appropriate instructional strategies as well as suggestions to enable deaf and hard of hearing students to participate in the school community. When deaf and hard of hearing students are in a regular education classroom setting, the regular education teacher requires detailed information in order to understand and appropriately accommodate the needs of the student. Often an IEP TEAM meeting can highlight areas for inservice training.

In designing any inservice program, it is important to conduct a formal needs assessment of all personnel designated to receive training. The evaluation of the needs assessment should result in a prioritized list of training needs, which then can be incorporated into specific training modules. Refinement of training activities should be an ongoing process based on formal evaluation and changing needs.

Suggested areas of focus for teachers of deaf and hard of hearing students may include:

- communication process
- effects of deafness on concept, communication and psychological development
- developmental issues
- ASL classes for improved fluency
- curriculum development and evaluation
- instructional strategies/state-of-the-art practices
- Deaf culture, history and literature
- educational practices most relevant for multihandicapped/deaf and hard of hearing students
- educational practices most relevant for multilingual/multicultural deaf and hard of hearing students
- impact of deafness on the family
- bilingualism/biculturalism (e.g., ASL/English)

Suggested areas of focus for regular education teachers, administrators and support personnel as well as for teachers of deaf and hard of hearing students:

- myths and stereotypes
- developmental issues
- educational and linguistic impact from the result of hearing loss
- ASL classes (total communication programs)
- effective strategies for communicating with deaf and hard of hearing students
- appropriate and effective use of interpreters, tutors and notetakers
- adapting teaching techniques to maximize effective learning
- appropriate accommodations (e.g., provision of visual cues) for deaf and hard of hearing students in a regular education setting
- effective use of auditory devices
- methods for including a deaf or hard of hearing student as a full member of the total school community
- Deaf culture, history and literature
- assistive and instructional technology
- stresses experienced by deaf and hard of hearing students
- difficulties learning through an interpreter: strategies to employ
- bilingualism (e.g., ASL/English)

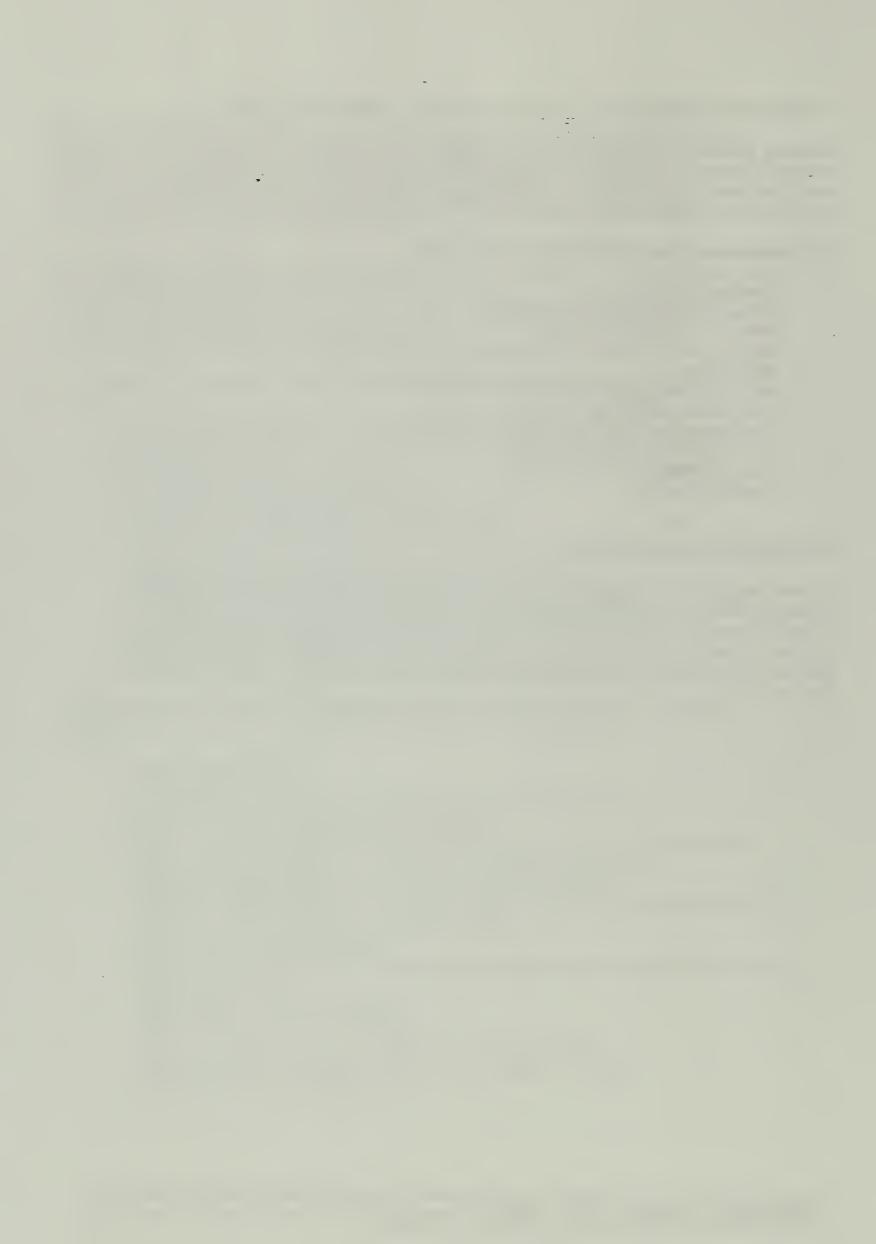# STUDENT ORIENTATION: EDUCATING PEERS ABOUT DEAFNESS

Educating peers about deafness should be a priority in those educational environments where hearing, deaf and hard of hearing peers interact. Eliminating isolation within the learning environment and effectively integrating deaf and hard of hearing students can result in a setting where peers share social as well as learning experiences.

Suggested areas of focus for hearing students include:

- communication
- the nature of hearing and hearing loss
- myths and misunderstandings
- hearing, deaf and hard of hearing people: similarities and differences
- ASL classes
- the role of interpreters in a classroom setting
- Deaf culture, history and literature
- hearing conservation (See Appendix A: Glossary)
- values and limits of amplification
- issues surrounding mainstreaming
- assistive devices

TECHNICAL ASSISTANCE

A person who would offer technical assistance (TA) should have sophisticated, up-to-date expertise in the area of deafness and its impact on classroom instruction. This person should be capable of providing training in designated areas of need as well as offer consultation on an individual basis. In addition, anyone serving as a technical assistant should have a working familiarity with statewide resources and the existing network of experts in the field.

CHAPTER SIX

COMMUNICATION ACCESSIBILITY
THROUGH BUILDING FEATURES
AND TECHNOLOGY

To enable deaf and hard of hearing students to have full access to communication and information within the school setting, the following areas should be attended to:

* control and reduction of reverberation and background noise
* amplification of speech
* reduction of visual distractions
* utilization of appropriate technology and assistive devices
* regular maintenance of technological equipment

In this chapter, *Building Features* identifies those designs that result in optimum opto-acoustical features in classroom and school facilities. *Technology* (assistive and instructional) identifies those pieces of equipment that assist in the student's overall communication needs. Taken together, these elements play a decisive role in determining the success of a student's accessibility to the language and learning available in an educational setting.

BUILDING FEATURES

Students learn in many different areas of school buildings: classrooms, resource rooms, computer labs. Adaptations in the opto-acoustical environment of these areas can be of enormous benefit to students who use amplification, residual hearing, speech/lipreading, interpreters, signing teachers, etc. Although some such accommodations may be necessary in school planning and building construction, other accommodations are more appropriately determined according to the needs of each individual student who enters a new school program.

The following are guidelines for offering an optimum opto-acoustical environment for deaf and hard of hearing students. In some instances, many of these items can be incorporated into the IEP and therefore become a required part of the student's educational programming.

Noise/reverberation control

When sound is introduced into a room, a continual process of reflection takes place from the floor, walls and ceiling. This reflection results in a prolongation of the sound, which is known as reverberation. The amount of reverberant energy in a room depends on the types of material that the surface of the floor, walls and ceiling consists of. The ability to understand speech begins to diminish considerably with reverberations longer than .05 seconds; however, many classrooms have an average reverberation time of 1.2 seconds.*

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* M. Ross, D. Brackett, and A. Maxon. *Hard of Hearing Children in Regular Schools*. (Englewood Cliffs, 1982), p. 131.

Currently, many hard of hearing students have to wear their hearing aids in less than favorable acoustical circumstances. "The noise and reverberation in the average classroom practically guarantee that students wearing hearing aids will miss, under the best of circumstances, about 30 percent of the teacher's speech; in average situations, the student may not be able to understand the teacher at all. The average intensity of the teacher's speech arrives at the microphone of the student's hearing aid only about 1 to 5 decibels louder than the surrounding noise".*

NOTE: The lower the signal-to-noise ratio the harder it is to understand speech.**   A signal-to-noise ratio of at least 15 to 20 decibels is important for hard of hearing students' success in the classroom.

Adaptations include:

- cloth partitions and room dividers (e.g., book shelves)
- building materials that do not reverberate
- location of classrooms, therapy rooms, etc. away from cafeteria, street, playground and other major noise sources
- acoustical ceiling tiles
- carpeted floors
- drapes and curtains
- classrooms (including classrooms with proper acoustics)
- installation of noise depressants such as insulated encasements of equipment
- installation of rubber seals around doors and windows
- installation of rubber tips placed on the legs of chairs and desks
- installation of sound buffers (especially in corners)
- use of corkboard
- use of books to absorb sound

Considerations include:

- utilization of room dimensions that aid in reduction of the amount of reverberation
- reduction of background noise from equipment (e.g., overhead projectors and fans)
- reduction of noise from ventilation and machines
- minimization of intrusive noise level as not to exceed 25 - 30 dBA
- location of speaker to listener at a distance of less than nine feet

Emergency warning and signal systems (EWSS)

Deaf and hard of hearing students do not always hear fire alarms or other audio systems. Visual signaling devices in classrooms and other areas are important for safety and for transmitting information. EWSS may be either permanently installed or portable. The following systems provide safety and other information signals:

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* Mark Ross, "Definitions and Descriptions," in *Our Forgotten Children:Hard-Of-Hearing Pupils in the Schools.* ed. J. Davis (Minneapolis, 1977), p 14.

** Terese Finitzo-Hieber, "Classroom Acoustics," in *Auditory Disorders in School Children.* eds. R. Roser and M. Downs (New York, 1981), p. 257.

- • fire alarms and smoke detectors that activate beacons and strobe lights
- • emergency communication systems in elevators which activate a visual message
- • flashing lights to augment audio signals (e.g., bells)

Amplification and visual output systems

FM systems and other assistive devices and systems that provide simultaneous auditory and visual output (e.g., TV monitors) are important conduits of information for deaf and hard of hearing students. These systems may either be portable or hard-wired into the electrical system of the building.

The following considerations are important for successful use of these systems:

- • quality of audio and visual output
- • technical compatibility between public address and educational amplification systems such as infrared and induction loops
- • installation of permanent educational amplification systems in large group settings such as the auditorium, cafeteria and gymnasium

Telephones/telecommunications

Lighting

Poor lighting can obscure or distort the facial expressions, signs, body movements and gestures that assist signed language users and speechreaders to interpret language. For instance, lighting considerations are especially necessary when students are utilizing interpreters or speechreading. Proper lighting as well as nonglare lighting promote visual concentration and reduce eyestrain. Curtains, blinds and shades are often helpful. Lighting is best when it can be controlled and modified according to need.

Color

Students benefit from solid backgrounds for ease in speechreading and using sign language. The visual environment, including walls and drapes, should be pleasant.

Visual Cues

Visual cues (signs, symbols and words) assist and augment deaf and hard of hearing students' ability to function in school. Parents visiting the school building also benefit from visual input.

TECHNOLOGY

Assistive devices are often appropriate for deaf and hard of hearing students in the classroom. For example, an auditory trainer worn by a student would provide for clearer auditory input. However, the use of personal hearing aids alone in a group and classroom setting may not be sufficient for acceptable reception of spoken language by deaf and hard of hearing students.

Assistive Technology

Hearing aids, educational amplification systems and other assistive devices address a variety of needs for deaf and hard of hearing students (See Appendix B). Educational amplification systems and other devices should be available as needed, in classrooms, resource rooms, auditoriums and other areas as appropriate, to support the activities of the student as well as the school personnel. Assistive devices may be written into the IEP as part of the educational program.

> **NOTE:** Inservice training should address the administration of technology. A procedures manual outlining information in the use and maintenance of hearing aids, assistive devices, emergency equipment and instructional technology could be of great value to school personnel.

The availability of special equipment such as TDDs and amplifiers ensures that students who are deaf and hard of hearing and/or family members who are deaf or hard of hearing have telephone access. It is suggested that at least one public and one school telephone in school buildings with any deaf or hard of hearing personnel or students have a TDD and an amplification device. As appropriate, the IEP may include instruction in the use of TDDs.

Instructional Technology

The following are specific and important examples of current instructional technology:

- overhead projectors
- film projectors
- VCRs with decoder equipment
- captioned films and videotapes (A telecaption adapter or decoder is a piece of equipment attached to a television that can display closed captions encoded in television programs, cable television programs and video cassettes.)
- closed circuit cable systems
- television with telecaption adapter or decoder
- electronic mail and bulletin boards
- computer-assisted instruction (CAI) with or without video
- computer software packages identified as appropriate for deaf and hard of hearing students
- state-of-the-art speech training technology

PARENT EDUCATION

Parent education enhances the educational achievement of deaf and hard of hearing students. Because a large majority of deaf children have hearing parents, these parents can benefit from help in understanding their children's as well as their own needs. The acquisition of skills that can provide children with the communication and language environment essential to their optimal development is an important facet of parent education. This type of support is helpful to deaf, hard of hearing and hearing parents.

Parent education programs can be an effective way to enable families to acquire the knowledge and sensitivity necessary to provide a supportive home environment for deaf or hard of hearing students. Information and support programs that include counselors, trainers and adults who are deaf and hard of hearing can make a significant contribution toward meeting parent concerns. Meeting deaf and hard of hearing adults helps parents to understand the adults their children will become.

Parent programs therefore benefit from having two components:

- opportunities to acquire concrete information and education on issues and topics specific to being a deaf or hard of hearing person
- family support that facilitates understanding the impact of deafness on the child and the family

The first part of the chapter, *Components of a Parent Education Program*, includes descriptions of information and education as well as options for offering family support. *Suggestions for Developing and Implementing a Parent Education Program* includes techniques that can help school districts work together with families.

COMPONENTS OF A PARENT EDUCATION PROGRAM

Information and Education

Increased understanding and awareness of deafness is a critical part of parent education. Learning to live with deafness may be difficult for hearing parents. The school community and deaf and hard of hearing persons who participate in a parent program can help parents accept issues of deafness in the family and better understand and meet their children's communication, social and educational needs.

Information for families includes ongoing opportunities to be informed about medical, educational and technological issues related to deaf and hard of hearing students. Listings of available resources (e.g., Deaf Clubs) as well as networking opportunities can often be supplied through parent programs. The list below represents potential topic areas that could be addressed in any parent program. Some topics are more appropriate for families whose children are hard of hearing; other topic areas are more appropriate for families whose children are deaf. In addition, some topics are appropriate for both audiences. All topics must be geared to the age and stage of the student as well as the unique needs and experience of the family with deaf and hard of hearing member(s).

Potential Areas of Focus for Parent Education Activities (may include)

- educational philosophies/program options
- deafness and identity
- American Sign Language
- Deaf culture, history and literature ·
- development of speech/language
- interpreting the audiogram and other audiological assessments
- child management/discipline
- recreational and other activities accessible to deaf and hard of hearing students
- Chapter 766, P.L. 94-142 and Section 504 of the Rehabilitation Act of 1973
- parent advocacy
- the role and function of advisory councils (See Appendix D)
- the value of assistive devices (See Appendix C)
- enhancing the visual or auditory environment: an introduction to technology (See Chapter Six)
- ways in which parents can help their children develop language skills
- information on available resources (See Appendix H)

Family Support

The complexities involved in integrating deafness into the family can impede a student's capacity to function effectively in a school environment. In such cases, appropriate family supports available through the community, the regular school or the school for the deaf may need to be accessed. Self-help or peer support groups are very effective because they build on the experience and empathy of parents who share common experiences. Peer groups are particularly beneficial in addressing the varied developmental and communication concerns within a family.

Ways in which a school system may utilize internal or community agency resources to provide and/or facilitate support may include:

- counseling
  - individual
  - group

- self-help or peer support group
  - parent-to-parent
  - mothers, fathers
  - siblings
  - grandparents

- social activities (picnics, pot lucks, skating parties, etc.)
- classes in communication techniques as appropriate
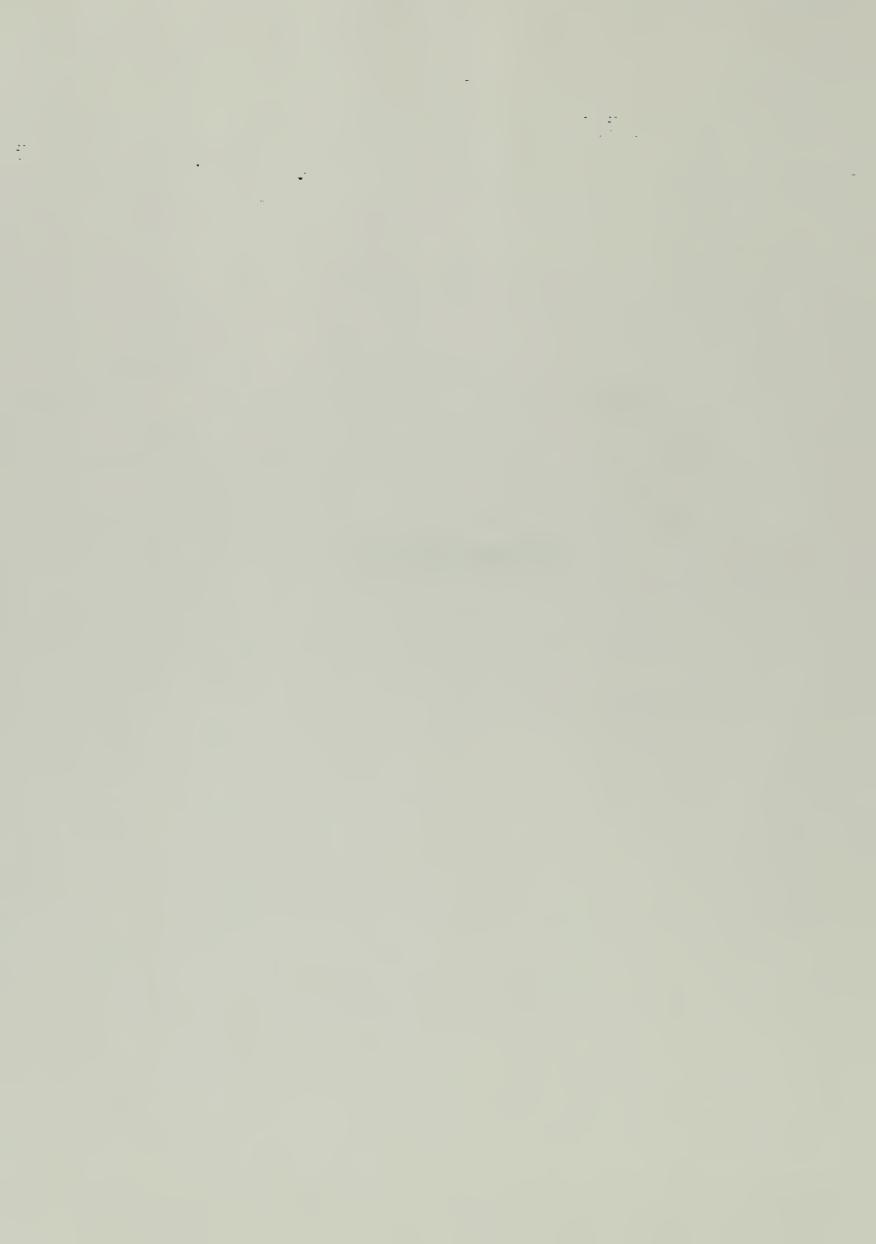- opportunities to meet deaf and hard of hearing adults/Deaf Community

SUGGESTIONS FOR DEVELOPING AND IMPLEMENTING A PARENT EDUCATION PROGRAM

The success of any parent program relies on active parent participation. Suggestions for maximizing parental involvement include the following:

- coordinator to develop and implement a program for parents
- outreach program
- inclusion of deaf and hard of hearing adults (e.g., guest speakers)
- development of a formal information needs inventory to ascertain area(s) of greatest interest and need to families
- information and support meetings that take into consideration:
  - time and place
  - accessibility
  - interpreter needs (oral/English, signed languages/ASL, Portuguese, etc.)
  - assistive devices as needed
  - transportation
  - child care needs
  - social components
- collaboration with schools for the deaf
- collaboration between cities and towns to offer parent meetings in communities where there are only a few deaf and hard of hearing students
- networking with families and agencies
- provision of written materials through mailings
- provision of resources (e.g., social services, financial)

APPENDICES

GLOSSARY

The purpose of this glossary is to explain terminology used in the body of the guidelines.

Absorption coefficient - ratio of the sound energy absorbed to the total energy present

Ambient noise - background noise that competes with the main speech signal

American Sign Language (ASL) - language used by deaf people in the United States and parts of Canada (This language has its own phonology, morphology, syntax, semantics and discourse rules.)

Assessment - a formal/informal process of gathering educationally relevant information in order to make decisions regarding the provision of specific education services

Assistive devices - a generic term for a variety of instruments and systems (other than hearing aids) designed to enhance communication

Audiogram - a graphic record of sensitivity for hearing that shows the degree of hearing loss at specific frequencies

Auditory trainer (FM system) - See Appendix B

Auditory training - instructional strategies and activities designed to assist deaf and hard of hearing students with the identification and interpretation of auditory information

Bicultural - membership in two cultures

Bilingual - fluency in and use of two languages

Classroom acoustics - those conditions that affect the quality of the speech signal received by the child

Conductive hearing loss - a hearing loss characterized by damage or obstruction of the auditory canal, tympanic membrane (eardrum) or ossicular chain (ear bones in the middle ear) (This particular kind of ear pathology can often be treated by antibiotics or surgery.)

Cued speech - a visual compensation system that corresponds to speech sounds (This system employs eight hand configurations and four placement locations on the face to indicate vowel and consonant sounds.)

deaf person -   (a)   a person whose hearing loss affects the discrimination and processing of auditory information to the extent that, even with amplification, spoken language cannot be understood through the auditory channel to any practical degree. (Interaction with hearing persons and the hearing community varies depending upon the individual and the situation(s).)

Deaf person - (b)   a person (deaf or hard of hearing) who uses ASL as (one of) his/her primary languages and identifies with and interacts with the Deaf Community

Deaf Community - a group of people who share a common identity, a common language, a common culture and a common way of interacting with each other and the hearing community (In the United States, the common language of the Deaf Community is ASL.)

Deaf culture - shared language (e.g., ASL), values and beliefs of many Deaf people

Deaf studies - the study of the history, culture, language and literature of the Deaf and the cross cultural relationship between the Deaf and hearing communities

Decoder - a piece of equipment that can display closed captions encoded in television programs, cable television programs and video cassettes (also called a telecaption adapter)

English - the most commonly used language of the people of England, the United States and several other countries

English-based signed systems - see Signed English systems

Fingerspelling - the process of spelling words with fingers using the American manual alphabet

Frequency (Hz - Hertz) - the number of vibrations or cycles per second of a sound wave (Hearing acuity may vary considerably depending on the frequency of the sound.)

Hard of hearing person - a person whose hearing loss interferes with the processing of auditory information (Some hard of hearing people may choose to maximize their hearing with hearing aids and other assistive devices; other hard of hearing people may, in addition, choose to use ASL and interpreters.)

Hearing conservation programs - programs aimed at: 1)increasing awareness of hearing health and the risks associated with exposure to high noise levels, and 2) protecting existing hearing levels for deaf and hard of hearing individuals via audiological and otological management and the minimization of noise exposure

Hearing person - (a)   a person whose hearing is intact and who can process auditory information

(b)   a person (hearing or hard of hearing) who shares a common language (e.g., English) and a common culture with a particular hearing community

Hearing impaired person - a person who has a hearing loss; the term should not be used interchangeably with "Deaf"

Interpretation - the process of conveying a message from one language into another (including spoken and signed languages)

Mainstreaming - process of integrating students with special education needs into a regular education program

Multicultural - membership in more than two cultures

Multilingual - fluency in and use of more than two languages

Native language - the primary language used by an individual or the language used by his/her parents

Opto-acoustic environment - the qualities of a room, hall, auditorium, etc. that determine how well visuals can be seen and sounds can be heard (Lighting/color is especially critical for deaf and hard of hearing people who use interpreters and/or are users of lip/speechreading.)

Oral interpretation - the process of paraphrasing/transliterating a spoken message with or without voice and with natural lip movements or the process of understanding the speech and/or mouth movements of deaf or hard of hearing persons and repeating the spoken message

Otology - the medical speciality related to the treatment of diseases of the ear

Parental language(s) - the language(s) used by the parents in the home

Primary language - the language most often used by an individual

Pidgin Sign English (PSE) - a variety of sign language that occurs when ASL and English users interact with each other (It incorporates features of both languages, ASL and English.)

Reverberation - prolongation of the sound after the source has ceased vibrating (It is a function of the surface type in the room. The amount of reverberant energy in a room depends on the absorption coefficient of the surface of the walls, floor and ceiling.)

Reverberation time - the time it takes from the moment a sound source has stopped for it to be reduced 60 dB from its original intensity

Residual hearing - that amount of hearing possessed by a person with a hearing loss

Second language - a language learned that is not one's primary or native language

Sensorineural hearing loss - a hearing impairment characterized by pathology in the inner ear (cochlea) or somewhere along the eighth cranial nerve (In most cases, this kind of hearing loss cannot be corrected by current surgical procedures or medication.)

Signal-to-Noise Ratio (S/N Ratio) - a measure of the intensity of the speech signal (e.g., teacher's voice) relative to competing background noise (The amount of information that is understood in a classroom often decreases as the S/N Ratio decreases.)

Signed languages - visual languages of the world used by Deaf and hard of hearing persons (e.g., French Sign Language, Danish Sign Language, American Sign Language)

Signed English systems - invented (or artificially developed) manual codes for presenting English visually (Signed systems may range from selected ASL forms in combination with invented forms for morphemes in English to newly created forms that represent English words. Another term is Manually Coded English.)

Speechreading - the process of reading lips and facial movements for the purpose of understanding spoken language (also known as lipreading)

TEAM - refers to a multidisciplinary evaluation team that conducts assessments and designs an Individualized Educational Plan (IEP)

Telecommunication Devices for Deaf People (TDDs) - originally and often called TTYs these devices enable deaf and hard of hearing people to communicate by telephone
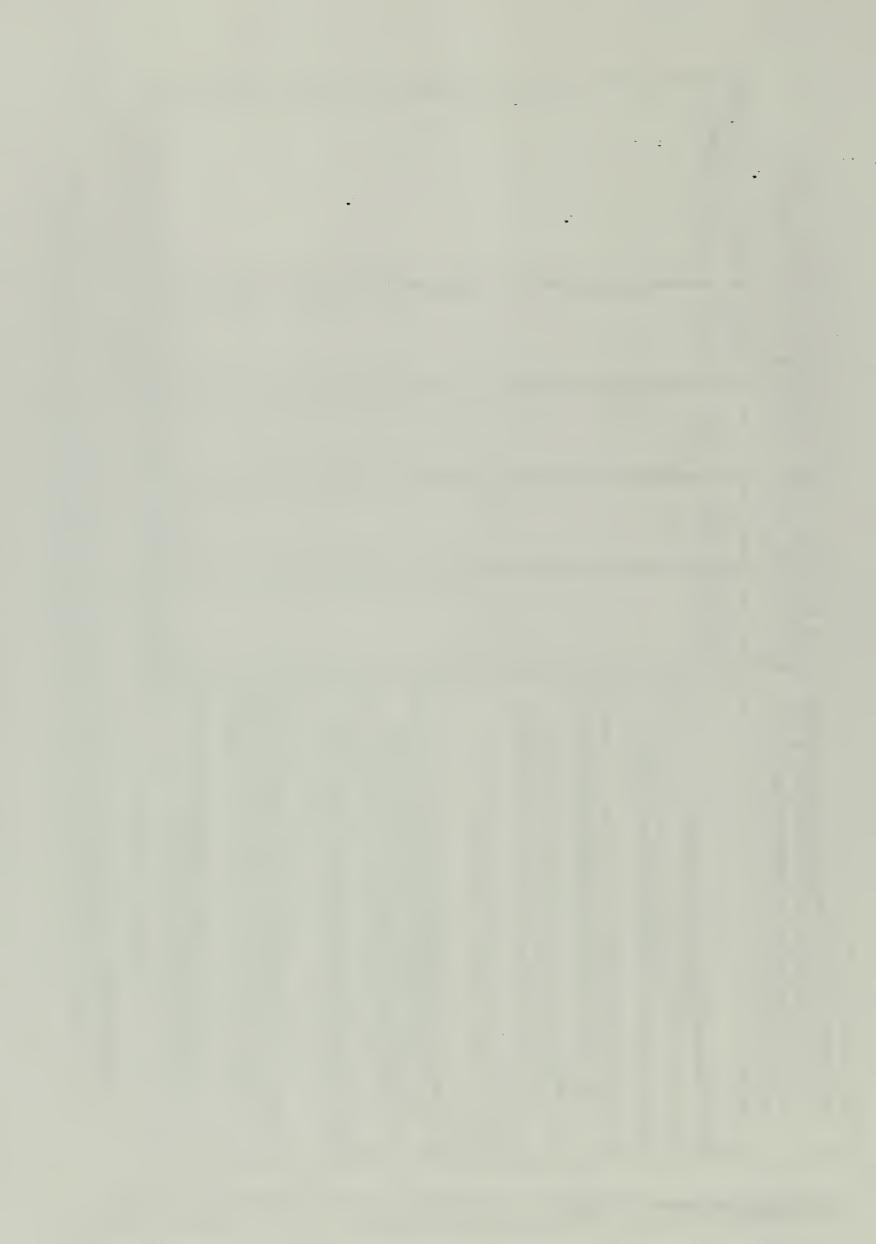

Appendix B

SUGGESTED GUIDELINES FOR EVALUATING THE COMMUNICATION AND LANGUAGE COMPETENCIES OF DEAF AND HARD OF HEARING STUDENTS

	ENGLISH	ASL	PSE	SIGNED ENGLISH	OTHER LANGUAGES USED IN HOME
RECEPTIVE:					
Ability to understand appropriate grammatical structures in language:					
- word order					
- basic sentence types (declarative, interrogative, etc.)					
- complex sentence types (embedded clauses, conjoined sentences, etc.)					
- basic pronominal system (personal pronouns, classifiers, appropriate pronoun choices)					
Ability to understand basic meaning and extensions of meaning:					
- modification of lexical (words and signs) and sentence structures in the production of variations in meaning (e.g., verb tenses, verb aspect					
- derivation of different forms from lexical categories (e.g., derivation of adjectives from verbs, nouns from verbs, etc.)					
Ability to understand figurative and creative language:					
- idiomatic expressions in language					
- variations in meaning of different language structures across social settings (generational or peer group meanings vs. adult meanings and jargon and slang)					
Ability to understand age-appropriate language according to developmental milestones					

SUGGESTED GUIDELINES FOR EVALUATING THE COMMUNICATION AND LANGUAGE COMPETENCIES OF DEAF AND HARD OF HEARING STUDENTS

	ENGLISH	ASL	PSE	SIGNED ENGLISH	OTHER LANGUAGES USED IN HOME
RECEPTIVE (continued)					
Ability to understand appropriate discourse and conversation rules (turn taking, introducing and maintaining topic, characters, theme, setting, etc.)					
Ability to understand intelligible and fluent language (clarity of input, preciseness of delivery, level of fluency, etc.)					
ENGLISH/OTHER LANGUAGE/SPEECHREADING					
Ability to understand individual words or segments of words in spoken language					
Ability to understand larger chunks of spoken language (e.g., phrases, sentences)					
Ability to understand figuratively and creatively spoken language					
Ability to reorder initial perceptions of a spoken language message as meaning becomes further clarified					
EXPRESSIVE					
Ability to produce appropriate structures in language: - word order - basic sentence types (declarative, interrogative, etc.) - complex sentence types (embedded clauses, conjoined sentences, etc.) - basic pronominal system (personal pronouns, classifiers, appropriate pronoun choices)					

SUGGESTED GUIDELINES FOR EVALUATING THE COMMUNICATION AND LANGUAGE COMPETENCIES OF DEAF AND HARD OF HEARING STUDENTS

	ENGLISH	ASL	PSE	SIGNED ENGLISH	OTHER LANGUAGES USED IN HOME
EXPRESSIVE (continued)					
Ability to produce basic meaning and extensions of meaning:					
- modification of lexical (words and signs) and sentence structures in the production of variations in meaning (e.g., verb tenses, verb aspect)					
- derivation of different forms from lexical categories (e.g., derivation of adjectives from verbs, nouns from verbs, etc.)					
Ability to produce figurative and creative language:					
- idiomatic expressions in language					
- variations in meaning of different language structures across social settings (generational or peer group meanings vs. adult meanings and jargon and slang)					
Ability to produce age-appropriate language according to developmental milestones					
Ability to produce appropriate discourse and conversation rules (turn taking, introducing and maintaining topic, characters, theme, setting, etc.)					
Ability to produce intelligible and fluent language (articulation, preciseness of delivery, level of fluency, etc.)					

HEARING AIDS, EDUCATIONAL AMPLIFICATION SYSTEMS, AND OTHER ASSISTIVE DEVICES

Hearing Aids - personal amplification devices consisting of a microphone, an amplifier and a receiver

The basic function of a hearing aid is to amplify sound. Although hearing aids are designed to enhance the reception of speech, competing background noise will also be amplified to some extent. Therefore, it is important to remember that hearing aids alone will not provide an adequate listening environment. To maximize the potential benefit of a hearing aid, the signal-to-noise ratio (S/N) should be at least 15 to 20 decibels. Moreover, the room reverberation time should be no longer than .05 seconds.* This requires that background noise be minimized in a classroom setting and that the child be situated as near to the signal source as possible. (The signal can also be enhanced by having the teacher use a microphone and the student wear a receiver.)

> **NOTE:** See Chapter Six: *Communication Accessibility Through Building Features and Technology* for additional information.

Most children who wear hearing aids use ear-level aids, models that are located/positioned behind the ear (BTE) or in the ear (ITE). Some children may wear a body-type hearing aid contained in a harness worn on the chest. A bone-conduction hearing aid consisting of a small vibrator worn on the headband may be prescribed for children with anomalies of the outer and/or middle ear.

BTE hearing aids can be adapted with a "direct audio input feature" (DAI). This feature allows the child to plug a cord from the hearing aid directly into another sound source (e.g., tape recorder, T.V., radio). Benefits include improved sound quality and decreased interference from background noise. If the aid does not have this feature, it may be used with the tape recorder, etc. through the use of its "telecoil" (T) switch and a neckloop plugged into the sound source.

Educational Amplification Systems - a variety of devices to facilitate speech reception in educational settings

Most often used is an FM system, commonly referred to as an auditory trainer. In using this system, the teacher wears a wireless microphone and the student wears a compatible receiver. The teacher's voice is transmitted over a special FM frequency. FM auditory trainers provide improved sound quality, enhance the S/N ratio and allow for increased teacher/student mobility.

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* M. Ross, D. Brackett, and A. Maxon, *Hard of Hearing Children in Regular Schools*, (Englewood Cliffs, 1982), p. 131.

Other educational amplification systems:

- Infrared systems transmit sounds from a microphone via infrared light to a special receiver worn by the student.

- Induction loop systems utilize a wire coil (loop) to surround the classroom. Amplified sound is transmitted from the teacher's microphone through the loop to the "telecoil" (T) switch of a hearing aid.

Other Assistive Devices - a generic term for a variety of instruments and systems (other than hearing aids) designed to enhance communication. Assistive devices may include listening enhancement systems, telecommunication devices (e.g., TDDs), television decoders and altering or signaling devices.

THE ROLE AND FUNCTION OF ADVISORY COUNCILS

State and federal law requires parent participation through advisory councils. At the local, regional and state levels, these advisory councils advocate for children with special needs and advise and support local school systems, regional educational centers and the Department of Education on issues pertaining to special education.

PARENT ADVISORY COUNCILS (PACs) - Parents can influence educational decisions on programming for children with special needs by developing or joining local parent advisory councils called PACs. In addition to offering the opportunity to participate in educational programming in an informed way, PACs can provide an important service by developing community support for families of children with special needs and for the special education programs in their school districts.

REGIONAL ADVISORY COUNCILS (RACs) - There is a RAC in each of the six education regions in the state. The RACs advise the Department of Education's regional centers about programs within the region. Responsibilities also include an Annual Report to the State Advisory Commission.

STATE ADVISORY COMMISSION (SAC) - Members advise the Department of Education on special education needs in the state. The SAC must submit an Annual Report, which includes a summary of RAC reports, to the Board of Education and make recommendations for addressing any unmet needs in special education.

All advisory councils are formally organized groups generally including parents, professionals and other interested local community representatives committed to obtaining the best possible service/programs for children with special needs.

For more information:

- contact the Department of Education's central or regional offices
- see Appendix H: *Resources in Massachusetts for Deaf and Hard of Hearing Children and Youth*

HELPFUL HINTS: ENHANCING COMMUNICATION AND INSTRUCTION IN THE CLASSROOM

1. Consult with student periodically to incorporate his/her ideas regarding communication accessibility.

2. Ensure preferential student seating (based on need of student relative to classroom activity).

3. Reduce ambient noise level as much as feasible.

4. Speak and communicate naturally (no need to shout).

5. Face student whenever engaged in conversation even when using an interpreter (i.e., speak to student, not interpreter).

6. Speak to student as much as possible to facilitate language input.

7. Avoid placing self near source of direct light (e.g., window) in order to maximize speechreading capability.

8. Provide clear written instruction for all assignments.

9. Accompany instruction with clear visual input (e.g., displays, notes) *wherever possible*.

10. Encourage participation in classroom activities when appropriate.

11. Create peer interaction opportunities in academic and nonacademic activities.

12. Offer instruction in the social vocabulary (e.g., slang) of hearing students.

13. Provide a clear view of teacher, interpreter and blackboard to facilitate effective communication.

14. Allow flexible time limit to complete assignments that are language related.

15. Maintain student attention by periodic cueing of student (e.g., questions, eye contact).

16. Provide frequent feedback to student about his/her performance.

17. Provide "listening breaks" and/or "visual breaks" whenever possible.

18. Communicate regularly with the interpreter and other school personnel needed by the student.

19. Encourage students to speak one at a time during group discussions.

20. Institute a "buddy" system during social and other events (e.g., fire drills).

21. Devise a notetaking system that allows two hearing peers to take notes for the deaf or hard of hearing student; use a process that permits note sharing among all three students. (It is difficult for a student to speechread or watch an interpreter and take written notes at the same time.)

22. Make sure there is enough time after each transmission of information for the student to read/watch the teacher and/or interpreter.

NOTE: See Appendix F, *Suggested Guidelines for Teachers on How to Work with Educational Interpreters.*

SUGGESTED GUIDELINES FOR TEACHERS ON HOW TO WORK WITH EDUCATIONAL INTERPRETERS*

1. Take time at the beginning of the school year to discuss the role of the interpreter in the classroom with the interpreter and students.

2. Discuss the class format (lecture or discussion) and films/media to be used.

3. Provide relevant materials to the interpreter so he/she will be familiar with the subject matter and technical vocabulary prior to the class lesson.

4. Allow the interpreter and student to position themselves appropriately in the classroom and supply adequate lighting on both the teacher and the interpreter. (Ideally, the student should have a clear view of the teacher, interpreter and blackboard concurrently or the teacher and interpreter and the whole class concurrently depending on the lecture or class discussion format. Discuss whether the interpreter should "shadow" or follow you as you move around the class or remain seated at the front of the classroom.)

5. Be sure the interpreter is positioned in a well-lit area but not in front of a light source such as a window or a bright light; keep visual distractions behind the interpreter to a minimum. (A solid color background such as a blackboard or blank wall is ideal. During the showing of movies, videotapes, etc., position the interpreter near the screen and provide dim lighting focused on the interpreter.)

6. Be sensitive to the "processing time" that occurs when interpreting. (There will be a slight delay between what is spoken and the actual interpretation.)

7. Set up turn-taking rules that allow ample time during class lectures and discussion for the deaf and hard of hearing student to respond and participate. (The interpreter will need time to identify who is speaking during discussions.)

8. Speak at a normal rate of speed.

9. Maintain eye contact and speak directly to the deaf or hard of hearing student (e.g., talk in the first person, avoid using the term "tell him" or "tell her").

10. Remember the interpreter is working for everyone in class . (He/she is not there just for the deaf or hard of hearing student but to facilitate communication for everyone.)

11. Consult regularly with the interpreter.

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* Adapted from T. A. Hurwitz and A. B. Witter, "Principles of Interpreting in an Educational Environment," in *Mainstreaming: Practical Ideas for Educating Hearing Impaired Students,* ed. M. E. Bishop (Washington, D.C., 1979), pp. 138-140.

12 See *An Information Guide Related to Standards for Educational Interpreting for Deaf and Severely Hard of Hearing Students in Elementary and Secondary Schools*, a Massachusetts Commission for the Deaf and Hard of Hearing manual, for related information.
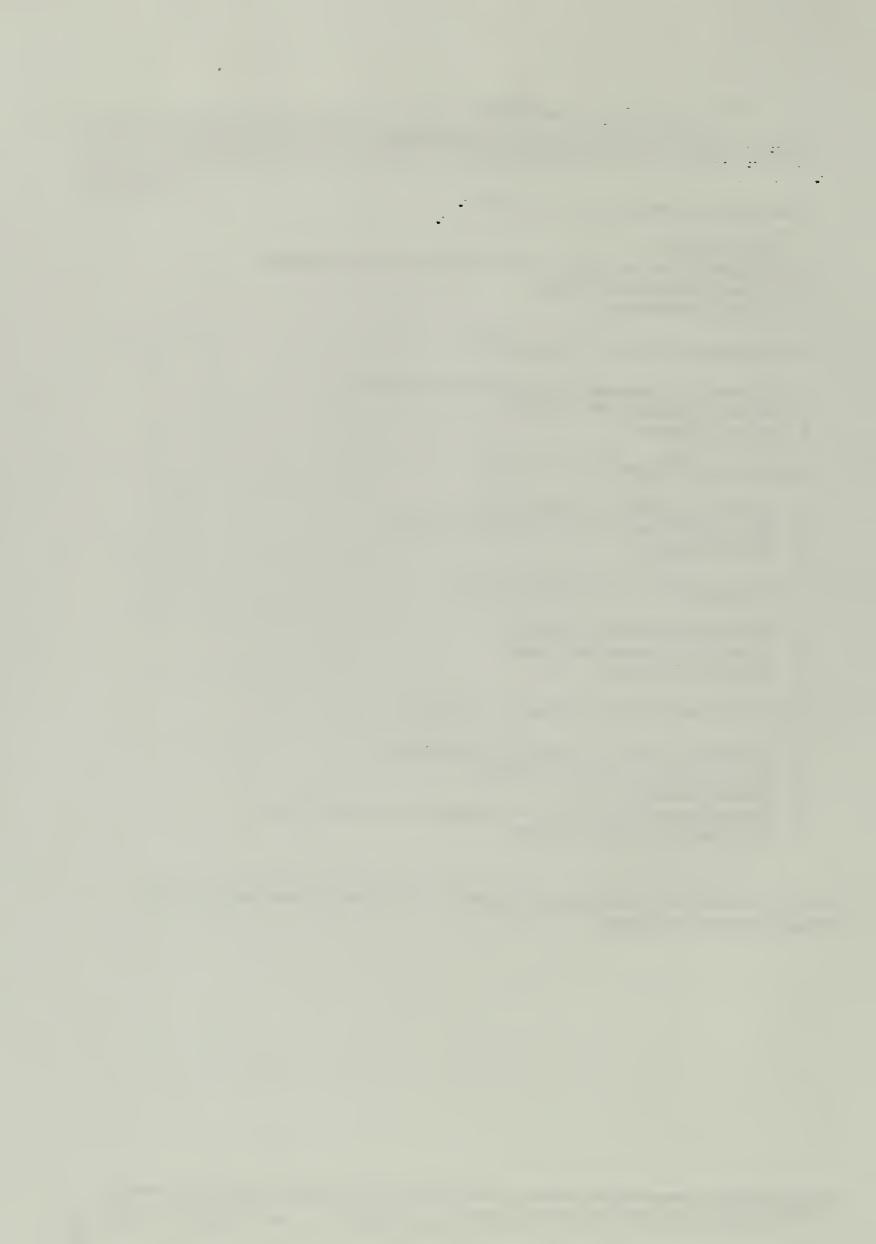
WHAT DO I DO IF THE HEARING AID WON'T WORK?

1. If the hearing aid whistles, check to see if:

    a. the earmold fits
    b. the battery is the wrong type or the battery contacts are corroded
    c. the cord connections are broken
    d. the receiver is broken

2. If the hearing aid is "dead," check to see if:

    a. the battery is dead, is the wrong type or is in backwards
    b. the aid is in the telephone position
    c. the cord is broken

3. If the hearing aid is weak, check to see if:

    a. the battery is weak or the wrong type
    b. the volume or tone control is on the wrong setting
    c. the cord is broken

4. If the signal goes on and off, check to see if:

    a. the battery contacts are corroded
    b. the cord or its contacts are broken
    c. the receiver is broken

5. If the aid sounds noisy or distorted, check to see if:

    a. the battery is weak or the terminals are corroded
    b. the tone setting is in the wrong place
    c. the cord contacts are loose
    d. the earphone is broken, is the wrong type or is clogged with wax
    e. the earmold is clogged with wax

Source: J. R. Mandell, *The Care of Hearing Aids*, (New York, 1971). Used with permission of the New York League for the Hard of Hearing.

RESOURCES IN MASSACHUSETTS FOR DEAF AND HARD OF HEARING CHILDREN AND YOUTH

For easy reference, the organizations below have been listed under specific categories. In most instances, organizations that provide numerous services are listed only by their primary function.

INDEPENDENT EVALUATION CENTERS

Boston Children's Deafness Network, The Children's Hospital, 300 Longwood Avenue, Boston, MA 02115, (617) 735-7404 (V/TDD)*

D.E.A.F., Inc., 215 Brighton Avenue, Allston, MA 02134, (617) 254-4041 (V/TDD): Vocational, Communication Skills, Independent Living Skills

The Mainstream Center, Clarke, Round Hill Road, Northampton, MA 01060, (413) 584-3450 (V/TDD): Academic, Language, Psychological, Audiological, Speech, Career/Vocational

R.E.A.D.S. Clinic, Human Services Building, 33 Main Street, Suite 3, Lakeville, MA 02347, (508) 947-8530 (V/TDD): Psychoeducational Evaluations

South Shore Mental Health, 482 Washington Street, Braintree, MA 02184, (617) 849-7750 (V), 848-8852 (TDD): Psychological Evaluations

INDEPENDENT LIVING PROGRAMS FOR DEAF AND SEVERLY HARD OF HEARING PERSONS

Ad Lib, 442 North Street, Pittsfield, MA 01201, (413) 442-7047

Center for Living and Working, Inc., Deaf/Hearing Impaired Services Program, 484 Main Street, Suite 345, Worcester, MA 01608, (508) 798-0350

C.O.R.D., P.O. BOX 954, HYANNIS, MA 02601, (508) 775-8300 (V/TDD)

D.E.A.F., Inc., 215 Brighton Avenue, Allston, MA 02134, (617) 254-4041 (V/TDD)

Northeast Independent Living Program Inc., 190 Hampshire Street, Suite 101B, Lawrence, MA 01840, (617) 687-4288 (V/TDD)

Southeast Center for Independent Living, Inc., 170 Pleasant Street, 3rd Floor, Fall River, MA 02721, (508) 679-9210 (V/TDD)

Stavros, Inc., 145 State Street, Room 307, Springfield, MA 01103, (413) 781-5555

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* V = Voice calls : TDD = calls using a Telecommunication Device for the Deaf (TDD or TTY)
To reach a TDD-only telephone, use a Telephone Relay Service. (See page 72.)

INFORMATION, REFERRAL AND ADVOCACY

Boston Guild for the Hard of Hearing, 283 Commonwealth Avenue, Boston, MA 02115, (617) 267-4730 (V), (617) 267-3946 (TDD).

The Caption Center, WGBH Educational Foundation, 125 Western Avenue, Boston, MA 02134, (617) 492-9225 (V/TDD)

D.E.A.F., Inc., 215 Brighton Avenue, Allston, MA 02134, (617) 254-4041 (V/TDD)

Federation for Children with Special Needs, 312 Stuart Street, Second Floor, Boston, MA 02116, (617) 482-2915 (V/TDD) - Western Office, P.O. Box 992, Westfield, MA 01086, (413) 562-3691

FIRST CALL/Information and Referral Service, United Way, 484 Main Street, Worcester, MA 01608, (508) 755-1233 (V/TDD)

Gallaudet University Regional Center, Northern Essex Community College, Elliott Way, Haverhill, MA 01830, (508) 374-3701 (V/TDD)

Massachusetts Advocacy Center, 76 Summer Street, Boston, MA 02110, (617) 357-8431

Massachusetts Chapter, Alexander Graham Bell Association, c/o President, Round Hill Road, Northampton, MA 01060, (413) 584-3450 (V/TDD)

Massachusetts Commission for the Deaf and Hard of Hearing (MCDHH), 600 Washington Street, Suite 600, Boston, MA 02111, (617) 727-5106 (V/TDD), 1 (800) 882-1155 (V/TDD)

Massachusetts Parents' Association for the Deaf and Hard of Hearing, P.O. Box 303, Boston, MA 02101-0303, for information by phone, please call: Lesley Patkin, Co-President, (617) 244-2220 (V/TDD) or Dan Simmons, Co-President, (508) 453-0204 (V)

New England Center for Deaf-Blind Services, 175 North Beacon Street, Watertown, MA 02172, (617) 924-3434, ext. 515 (V), 924-5525 (TDD)

Project REACH, University of Massachusetts/Boston, Downtown Campus, Room 1108, Boston, MA 02125, (617) 956-1141 (V), (617) 956-1196 (TDD)

Self Help for Hard of Hearing People, Inc., For information about chapters, please contact: 408 Broadway, Suite 204, Lynn, MA 01904, (617) 592-6936 (V/TDD); or 76 Hally Road, Lowell, MA 01854, (617) 453-0204 (V)

Speech and Hearing Foundation of Massachusetts, Inc., 15 Hemlock Street, Needham, MA 02116, (617) 449-2126 (V/TDD)

INTERPRETER SERVICES

Massachusetts Commission for the Deaf and Hard of Hearing (MCDHH), 600 Washington Street, Suite 600, Boston, MA 02111, (617) 727-5106 (V/TDD), 1 (800) 882-1155 (V/TDD)

ORGANIZATIONS FOR THE DEAF AND HARD OF HEARING

Deaf Community Center (DCC), 75 Bethany Road, Framingham, MA 01701, (508) 875-3617, (508) 875-0354 (TDD)

Massachusetts State Association of the Deaf, 77 Warren Street, Brighton, MA 02135, (617) 254-2776 (V), (617) 254-2955 (TDD)

Montachusetts Association of the Deaf/Hearing Impaired, Fitchburg Public Library, 610 Main Street, Fitchburg, MA 01420, (508) 345-9635 (V), (508) 343-4917 (TDD)

Self Help for Hard of Hearing People, Inc., For information about chapters, please contact: 408 Broadway, Suite 204, Lynn, MA 01904, (617) 592-6936 (V/TDD); or 76 Hally Road, Lowell, MA 01854, (508) 453-0204 (V)

Southeastern Massachusetts Association of the Deaf and Hard of Hearing, P.O. Box 2698, Fall River, MA 02722-2698

Western Massachusetts Association of the Deaf/Hearing Impaired, P.O. Box 80156, Springfield, MA 01138, (413) 549-5560 (TDD), (413) 783-4980 (TDD)

PERSONNEL TRAINING PROGRAMS

Boston University, Programs in Deaf Studies, 605 Commonwealth Avenue, Boston, MA 02215, (617) 353-3205 (V/TDD)

Gallaudet University Regional Center at Northern Essex Community College, Elliott Way, Haverhill, MA 01830, (508) 374-3701 (V/TDD)

Northeastern University, American Sign Language and Deaf Studies Certificate Program; American Sign Language-English Interpreter Certificate Program; Linguistics of American Sign Language, 276 Holmes Hall, 360 Huntington Avenue, Boston, MA 02115, (617) 437-3064 (V), (617) 437-3067 (TDD)

Northeastern University, Human Services: Deaf Studies Option, 210 Lake Hall, Boston, Massachusetts 02115 (617) 437-2624

Northern Essex Community College, Interpreter Training Program, Elliott Way, Haverhill, MA 01830, (508) 374-5899 (V), (508) 374-3633 (TDD)

Smith College, Smith College and Clarke School for the Deaf Graduate Teacher Program, Education Graduate Office, College Hall 3, Northampton, MA 01060, (413) 585-3050

SCHOOLS

Collaboratives

Cape Cod Collaborative, 230 South Street, P.O. Box 247, Hyannis, MA 02601, (508) 771-9544 (V/TDD)

CAPS Collaborative, A Cobblestones Program, Reingold School, 70 Reingold Avenue, Fitchburg, MA 01420, (508) 345-8943 (V/TDD)

C.A.S.E. Collaborative Program for Speech/Hearing/Language Impaired, Willard School, Powder Mill Road, Concord, MA 01742, (508) 369-9500 (V/TDD)

EdCo Secondary Education Program for the Hearing Impaired, Newton North High School, 360 Lowell Avenue, Newtonville, MA 02160, (617) 244-3407 (V), (617) 244-2403 (TDD)

R.E.A.D.S. Collaborative, Program for the Hearing Impaired, Human Services Building, 33 Main Street, Suite 3, Lakeville, MA 02347, (508) 947-8530 (V/TDD)

South Shore Educational Collaborative, Program for the Deaf and Hard of Hearing, Cole School, 81 High Street, Norwell, MA 02061, (617) 878-3551 (V/TDD), (617) 878-3551 or 749-7518 (V/TDD)

Schools for the Deaf

Beverly School for the Deaf, Six Echo Avenue, Beverly, MA 01915, (508) 927-7070 (V/TDD)

The Boston School for the Deaf, 800 North Main Street, Randolph, MA 02368, (617) 963-8150 (V), (617) 963-4837 (TDD)

Clarke School for the Deaf, Round Hill Road, Northampton, MA 01060, (413) 584-3450 (V/TDD)

Horace Mann School for the Deaf and Hearing Impaired, 40 Armington Street, Allston, MA 02134, (617) 787-5313 (V), (617) 783-3664 (TDD)

The Learning Center for Deaf Children, 848 Central Street, Framingham, MA 01701, (508) 879-5110 (V/TDD)

Willie Ross School for the Deaf, 32 Norway Street, Longmeadow, MA 01106, (413) 567-0374 (V/TDD)

SPECIALIZED EARLY INTERVENTION PROGRAMS

Beverly School for the Deaf, Six Echo Avenue, Beverly, MA 01915, (508) 927-7070 (V/TDD)

Harriette Smith Short Center for Families and Young Children, Clarke, Round Hill Road, Northampton, MA 01060, (413) 584-3450 (V/TDD)

Horace Mann School for the Deaf and Hearing Impaired, 40 Armington Street, Allston, MA 02134, (617) 787-5313 (V), (617) 783-3664 (TDD)

The Learning Center for Deaf Children, 848 Central Street, Framingham, MA 01701, (508) 879-5110 (V/TDD)

Mercy Hospital, Parent-Infant Program for Hearing Impaired Children, 233 Carew Street, Springfield, MA 01104, (413) 781-9100, 05611 (V), (413) 788-9644 (TDD)

Thayer Lindsley Nursery, Robbins Speech and Hearing Clinic, Emerson College, 168 Beacon Street, Boston, MA 02116, (617) 536-7255 (V), (617) 536-7262 (TDD)

STATE AGENCIES

Massachusetts Commission for the Blind, 110 Tremont Street, Boston, MA 02108, (617) 727-5550 (V), 1-(800)-392-6450 (V), 1-(800)-392-6556 (TDD)

Massachusetts Commission for the Deaf and Hard of Hearing (MCDHH), 600 Washington Street, Suite 600, Boston, MA 02111, (617) 727-5106 (V/TDD), 1 (800) 882-1155 (V/TDD)

- Central Regional Office, P.O. Box 8210, 22 Front Street, Worcester, MA 01614, (508) 755-4084 (V/TDD)
- Western Regional Office, 1694 Main Street, Second Floor, Springfield, MA 01103, (413) 788-6427 (V/TDD)

Massachusetts Department of Education, Division of Special Education, Central Office, 1385 Hancock Street, Quincy, MA 02169, (617) 770-7468 (V/TDD)

- Northeast Regional Education Center, 790 Turnpike Street, North Andover, MA 01845, (617) 727-0600 or (508) 689-0164, ext. 339 (TDD - extension only)
- Greater Boston Regional Education Center, Ottoson School, 75 Acton Street, Arlington, MA 02174, (617) 641-4870 or (617) 727-1470, ext. 78 (TDD - extension only)
- Southeast Regional Education Center, Human Services Building, 33 Main Street, Suite 2, Middleborough, MA 02347, (508) 947-1231, or (508) 727-1440, ext. 448 (TDD - extension only)
- Central Massachusetts Regional Education Center, Beaman Street, Route 140, West Boylston, MA 01583, (508) 835-6266 or (508) 792-7780, ext. 267 (TDD - extension only)
- Northwest Regional Education Center, Berkshire Plaza, 37 Main Street, North Adams, MA 01247, (413) 664-7101, ext. 324 (TDD - extension only)
- Greater Springfield Regional Education Center, Macek Drive, Chicopee, MA 01013, (413) 594-8511 or (413) 784-1700, ext. 229 (TDD - extension only)

Massachusetts Department of Mental Health, 160 North Washington Street, Boston, MA 02114, (617) 727-9842 (V/TDD)

Massachusetts Department of Mental Retardation, 160 North Washington Street, Boston, MA 02114, (617) 727-5608, ext. 208 (TDD-extension only)

Massachusetts Department of Public Health, Hearing and Vision Services, Bureau of Parent, Child and Adolescent Health, 150 Tremont Street, Boston, MA 02111, (617) 727-0944 (V) or 727-2682 (TDD)

Massachusetts Office for Children, 10 West Street, Boston, MA 02111, (617) 727-8900

Massachusetts Office of Handicapped Affairs, One Ashburton Place, Room 1305, Boston, MA 02108, (617) 727-7440 (V/TDD in Boston Area), 1 (800) 322-2020 (V/TDD outside of Boston Area)

Massachusetts Rehabilitation Commission, Statler Office Building, 20 Park Plaza, Boston, MA 02116, (617) 727-2194 (V/TDD)

TELEPHONE RELAY SERVICE

Massachusetts TTY/Telephone Relay Service, D.E.A.F., Inc., 215 Brighton Avenue, Allston, MA 02134, (617) 254-4160 (V/TDD), for callers in greater Boston area; 1-(800)-262-3323 (V/TDD), all callers outside greater Boston area; 1 (800) 445-3323, twenty-four hour emergency service

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For further information on available resources in Massachusetts and the United States, see *When Your Child Is Hearing Impaired: A Parents' Resource Guide*, 1987 Revision, Massachusetts Parents' Association for the Deaf and Hard of Hearing, P.O. Box 303, Boston, MA 02101-0303.

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